GOVERNMENT OF INDIA

RAILWAY DEPARTMENT

(RAILWAY BOARD)

REPORT

BY THE

RAILWAY BOARD

ON

INDIAN RAILWAYS

FOR

1929-30

Volume I

CALCUTTA: GOVERNMENT OF INDIA
CENTRAL PUBLICATION BRANCH
1930

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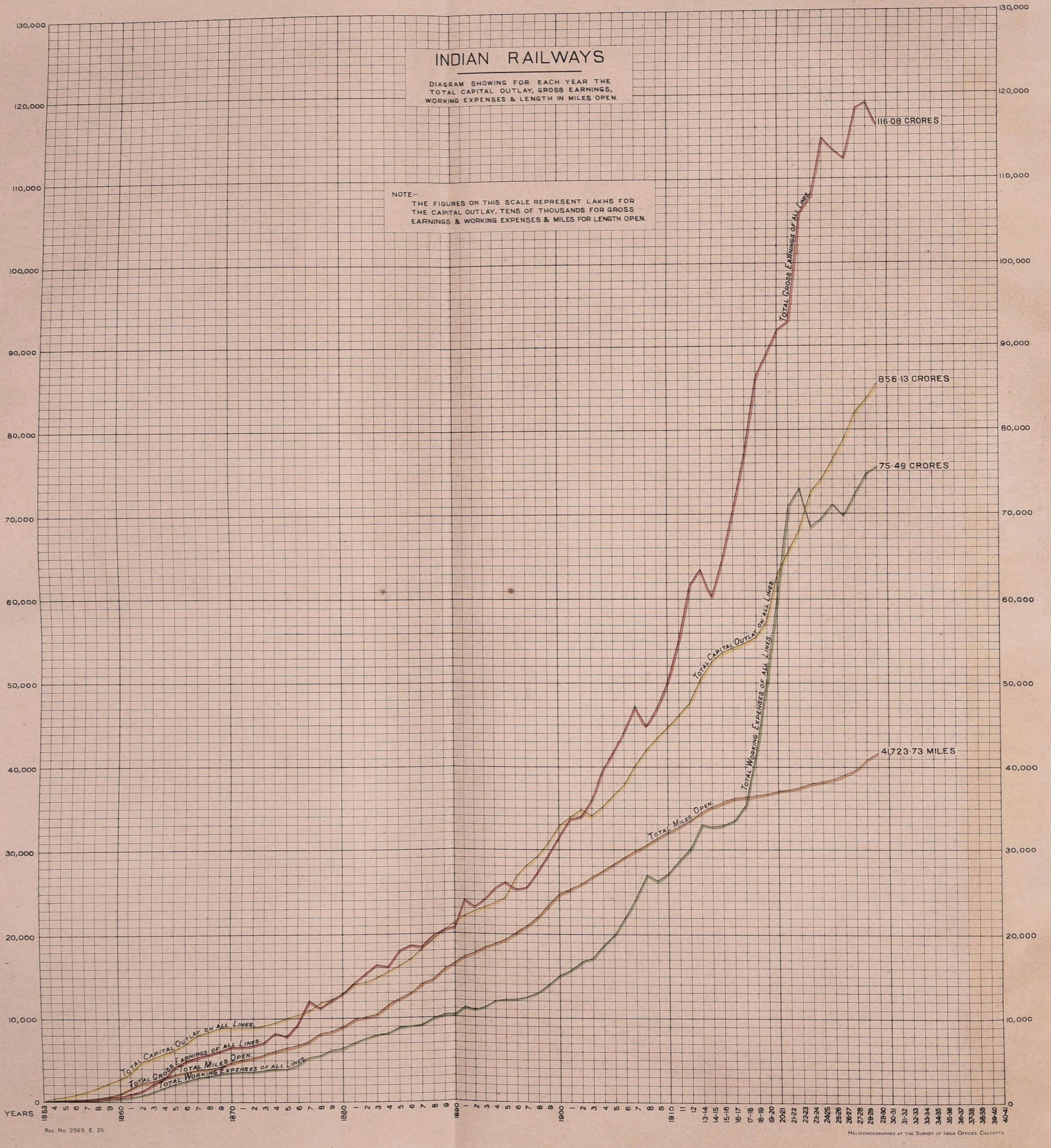

INDIAN RAILWAYS
DIAGRAM SHOWING FOR EACH YEAR THE TOTAL CAPITAL OUTLAY, GROSS EARNINGS, WORKING EXPENSES & LENGTH IN MILES OPEN.
NOTE:- THE FIGURES ON THIS SCALE REPRESENT LAKHS FOR THE CAPITAL OUTLAY, TENS OF THOUSANDS FOR GROSS EARNINGS & WORKING EXPENSES & MILES FOR LENGTH OPEN.
116·08 CRORES
856·13 CRORES
75·49 CRORES
41,723·73 MILES
TOTAL GROSS EARNINGS OF ALL LINES.
TOTAL CAPITAL OUTLAY ON ALL LINES.
TOTAL WORKING EXPENSES OF ALL LINES.
TOTAL MILES OPEN.
YEARS
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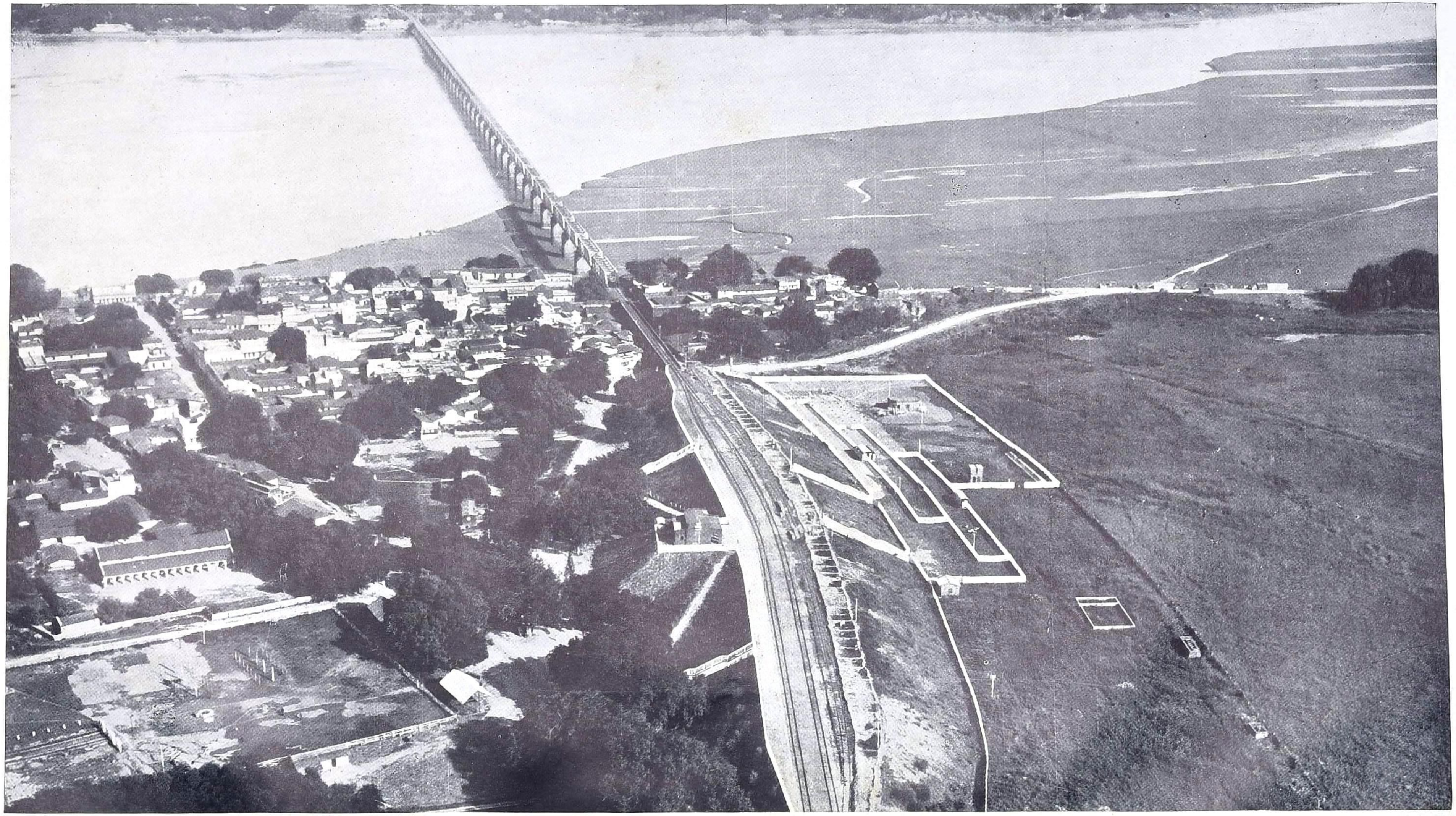

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Aerial photograph of "Izat Bridge" over the Ganges at Allahabad showing passenger enclosures at Izat Bridge Station for controlling Kumbh Mela traffic, 1930.

CHAPTER I.

GENERAL ADMINISTRATION.

1. **General Review.**—This report deals with the working of Indian Railways in the financial year 1929-30. The controlling feature of the year was the unsatisfactory position with regard to the agricultural production, most of the crops showing smaller outturns than in the preceding year. Although, taking the result of the whole year, the rainfall of 1929 was within 25 per cent. of the normal, except in Sind where more than twice the normal figure was recorded, the total rainfall was very unevenly distributed among the various tracts. During the monsoon period, the total fall was nowhere within the vicinity of the normal except in North East India, Central Provinces, Mysore and Madras, a large excess being recorded in the North-West Frontier Province and Sind. During the period of the monsoon's retreat, the rainfall was particularly excessive in Bengal, Bihar and Orissa, the Punjab and Sind, moderately in excess in Assam and North-West Frontier Province and defective throughout the remaining tracts, except in Bombay, Central Provinces, Mysore and Madras, where alone it could be regarded as normal.

2. The year 1929-30 was not such a profitable one for railways as the previous two years, the gross earnings of State owned railways being Rs. 102 crores or two crores less than in 1928-29. The net gain from the working of railways fell short of the contribution of Rs. 6·12 crores payable to the general revenues of the State by Rs. 2·08 crores which amount had accordingly to be withdrawn from the railway reserve fund. Goods traffic was responsible for the decrease, the earnings from goods carried on all railways having fallen from 71·1 crores to 68·8 crores. The principal reasons for the decrease in goods earnings were a decline in the exports of jute and wheat and less shipment of oilseeds. Earnings from passenger traffic increased by Rs. 34 lakhs, 14 million more passenger having been carried than in the previous year.

3. A further 812 miles were opened during the year but owing to the closing down of the Aden railway on 1st August 1929 and other small sections of line, the net addition to the mileage of railways during the year was 774, 652 of which belong to the State. The total route mileage at the end of the year was 41,724. In addition 1,258 miles were under active construction on 31st March 1930.

4. From the State Railways' point of view one of the principal features of the year was the purchase by Government of the Southern Punjab Railway on the 1st January 1930. The same month saw the completion of the Railway Staff College at Dehra Dun although the formal opening did not take place till a few days after the close of the year. Another matter of interest was the decision of His Exalted Highness the Nizam's Government to purchase the state railways system from the Nizam's Guaranteed State Railways Company Limited, from 1st April 1930.

5. **Railways and the Legislature.**—As in previous years members of the Council of State and the Legislative Assembly continued to show a great interest in the working of railways. Out of a total of 2,844 questions asked in the Legislature during 1929-30, 811, or 29 per cent. referred to railway matters. Among the subjects in which the greatest interest was shown were recruitment of staff, communal questions, projected lines, grievances of passengers, clearing accounts office, apprentices in workshops, tenders for stores and train services.

In addition to questions notice was given of 25 resolutions on railway subjects during the Simla Session and of 33 resolutions during the Delhi Session. Only four of these resolutions, however, found a place in the ballot and came up for discussion as under :—

(*i*) *Free allowance of luggage to passengers on State Railways.*—On 19th September 1929 a resolution was moved in the Council

of State recommending the revision of the scale of free luggage allowed to passengers on State Railways and that the prescribed free allowance should always be made whether luggage has been booked before the commencement of the journey or not. Government stated that the question of increasing the free allowance had already been referred by the Railway Board to the Indian Railway Conference Association and it was hoped that a decision would be arrived at before the close of the financial year.*

With regard to the second part of the resolution Government could not accept the proposition that the prescribed free allowance should always be deducted whether the luggage had been booked or not, but they stated that as the amount of unbooked luggage which passengers were allowed to take with them varied on different railways, the Indian Railway Conference Association had been asked to consider the introduction of a uniform procedure on all railways and that if facilities for weighing luggage were insufficient the railway authorities would be prepared to consider improvements. The resolution was withdrawn.

(*ii*) *Construction of a new central station at Allahabad.*—On 23rd September 1929, a resolution was moved in the Council of State recommending that steps be taken at an early date to build a new central railway station at Allahabad to which the narrow gauge railway may also be admitted. Government opposed the resolution on the grounds that the Railway Board had recently sanctioned an urgent grant for improving the intermediate and third class waiting accommodation at the present broad gauge station and that the inconvenience to passengers who have to change from one station to another is not sufficient to justify the expenditure of about Rs. 70 lakhs on building a new station. The resolution was negatived.

(*iii*) *Attempt to wreck the Viceroy's train.*—On 20th January 1930 a resolution was moved in the Legislative Assembly to congratulate their Excellencies Lord and Lady Irwin on their escape from the attempt to blow up their train near Delhi. The resolution was cordially endorsed by the Government and after being supported by speakers in other parts of the house was adopted.

(*iv*) *Relations between railways and inland steamer services in Eastern Bengal.*—On 8th February 1930 a resolution was moved in the Legislative Assembly recommending the appointment of a committee of members of the Assembly to enquire into the relations between the Eastern Bengal and Assam Bengal Railways on the one hand and the Inland Steamer Services in Bengal on the other, and to report as to whether and in what manner the interests of the railways are affected by their co-operation or competition, as the case may be, with the steamer services. Government explained that the Agent of the Eastern Bengal Railway had given special attention to this question recently and that he proposed to discuss the matter with the Steamer Companies. When the Agent's report had been received Government would consider whether any further action was necessary or whether a committee should be appointed. Meanwhile Government asked the mover not to press the matter and the resolution was withdrawn.

In addition to the above resolutions the adjournment of the Legislative Assembly was moved on 13th February 1930 to discuss the situation arising

* See para. 33.

out of the general strike on the Great Indian Peninsula Railway and the attitude of the railway administration towards the strikers. After a discussion the President ruled that the motion was in order and inquired if any hon'ble member had any objection to the motion. Government objected to leave being granted on the grounds that it was not a definite matter of urgent importance. As the motion was not supported by 25 members it lapsed.

6. Railway Budget.—The Railway Budget for 1930-31 was presented to both the Houses of the Legislature on the 17th February 1930. The general discussion on the budget took place in the Legislative Assembly on the 19th February 1930 and in the Council of State on the following day. The four succeeding days, *viz.*, from the 21st to 25th February 1930, were taken up with the voting of the demands for grants in the Assembly.

The general discussion of the budget and the debates on the voting of grants covered, as usual, a variety of subjects. A topic of outstanding importance that was raised was that relating to the revision of the convention separating railway from general finance. The committee appointed to go into the question held some meetings, but with the dissolution of the last Legislative Assembly the committee ceased to exist. The question will be further examined when a fresh committee is appointed.

Another important question discussed was whether the additional post of Labour Member on the Railway Board which had been created only a few months earlier should be continued or abolished. After a full debate, the motion on the subject was, by leave of the Assembly, withdrawn. The other questions raised were relatively of minor importance and the motions relating to them were either negatived or withdrawn, and the entire demands for grants were voted by the Assembly.

7. Standing Finance Committee for Railways.—The Committee met 12 times in 1929-30. Besides scrutinising the capital programmes of railways and discussing the budget proposals for 1930-31, they considered various proposals affecting railway staff, including the revision of cadres, the re-organisation of certain departments and the creation of a number of superior appointments. They devoted considerable attention to the proposed improvements in the conditions of service of railway servants with special reference to the "Hours of Work" (Washington) and "Weekly Rest" (Geneva) Conventions. They scrutinized the revised form of the programmes submitted annually by the railway administrations and the report on the system of preparing revised and budget estimates of receipts and charges on state railways worked by the State. They also examined the recommendations contained in Sir Arthur Dickinson's report on the accounts of railway collieries and on a new system of cash receipts and disbursements, and the economies effected, or likely to be effected, in the working of printing presses as a result of investigations specially made. Among other miscellaneous proposals, including the question of extending publicity activities in America, the committee scrutinized a proposal for the construction of a new railway on the basis of a guarantee from the local Government concerned.

8. Central Advisory Council for Railways.—During the year 1929-30, one meeting of the Central Advisory Council was held at Simla on the 21st September 1929. The subjects discussed were:—

1. Wagon supply committee report of June 1929.
2. Publicity of the proceedings of the Central Advisory Council for Railways.
3. Assistance from railway funds to railway employees for the education of their children.
4. Improvement in the standard of comfort of passengers.

Wagon Supply Committee Report.—The report was placed before the members of the Council and they were asked if further information on the subject was required. No further information was however asked for by the members.

Publicity of the proceedings of the Central Advisory Council for Railways.—It was explained to the members that there was no objection to the publication of a summary of the proceedings of the Central Advisory Council, but that it may be necessary on occasions to treat certain subjects as confidential and exclude them from the published proceedings. A member suggested that important recommendations of the Central Advisory Council for Railways might be brought to the notice of the Local Advisory Committees in summary form. The proposal was agreed to, and it was settled that when subjects were being discussed, the question of circulating the recommendations of the Central Advisory Council would be considered in each case.

Assistance from Railway Funds to Railway employees for the education of their children.—The position regarding the progress in the development of the new railway education policy was explained. After some discussion the proposal of a member to form a small sub-committee of three members, to go into the matter further with the Railway Board, was accepted.

Improvement in the standard of comfort of passengers.—The subject was discussed at some length. Some of the difficulties of passengers were pointed out by various members of the Central Advisory Council, *viz.*, the difficulty in ascertaining the timings of trains or correct fares, no member of the railway staff being available to answer enquiries and give information to third class passengers, lady ticket checkers not being available to guide lady passengers to trains, difficulty in purchasing platform tickets, the inadequacy of the time passengers are permitted on the platform before trains come in, short stoppage of passenger trains at stations, harassment by coolies, harassment by travelling ticket examiners, rude behaviour of ticket collectors and lack of refreshment cars or compartments on trains for Indian passengers. Suggestions were made for an improvement in the standard of comfort of passengers, some of which were accepted and an undertaking given that these suggestions would be communicated to railway administrations.

9. Purchase of the Southern Punjab Railway.—The purchase of the Southern Punjab Railway, mention of which was made in the last year's report, was effected on the 1st January 1930, at a cost of approximately 7 crores of rupees. The line, of which the aggregate length was about 927 miles, now forms an integral part of the North Western Railway system; and apart from the administrative advantages gained from this acquisition, the financial gain is estimated to be an increase of some 47 lakhs of rupees in the net annual revenue to Government.

10. Separation of Railway Accounts from Audit.—In last year's report mention was made of the proposal to separate Accounts from Audit on the Great Indian Peninsula Railway with effect from the 1st October 1929 and on the Eastern Bengal Railway with effect from the 1st April 1930. The change was given effect to on the dates mentioned above. As a consequence of this separation, it has been decided to relieve Government Examiners of all accounting work and to transfer the statistical work from the Executive to the Controller of Railway Accounts and the officers under his control and steps have been taken to give effect to these decisions.

11. Accounts schemes.—During the year the schemes briefly described below were started :—

(*a*) The preparation of station to station Foreign Rates Registers. This work was conducted in the office of the Director of Railway Clearing Accounts and is commented upon in paragraph 12 below.

(*b*) The decentralisation of the Traffic Accounts Offices of state railways into zone offices in charge of a limited number of stations. The entire compilation of station accounts will be carried out in these offices and the accounting work of station staffs confined to the preparation and submission of the initial documents only.

(*c*) The mechanisation of Stores and Provident Institution work on state railways. Hollerith tabulating machines are being used for this purpose.

(*d*) The establishment of a central clearing institution for the early adjustment of inter-departmental transactions. This scheme is evidently not an exclusively railway concern but by arrangement with the Auditor General it has been started, and is continuing for the time being, under the immediate control of the Financial Commissioner of Railways.

The main object of these schemes is the early closing of accounts—a subject which has been under consideration for some time. In addition economy and increased efficiency will, it is anticipated, be gained as a result of this work.

12. Railway Clearing Accounts Office.—During the year the Clearing Accounts office has consolidated its position and has undertaken the revision of procedure in the light of experience gained. The office manuals have now been completed and will shortly issue. In addition the office has been engaged in the preparation of rate registers for through traffic. Those for the North Western Railway have been completed and are now under issue to stations. It is anticipated that this reform will greatly increase the efficiency of work at stations and will eventually lead to considerable economies.

As mentioned in last year's report the question of opening a Clearing Accounts Branch Office at Madras has been under consideration. The proposition statement in this connection has been prepared, but in view of the further developments that have arisen in connection with the experiments now in operation of preparation of through rate registers and of decentralisation of Traffic Accounts work, no definite decision has yet been arrived at. It is proposed to postpone this question till the results of these experiments are known, as if successful, they will entail important modifications in the present scheme.

13. Meetings with Agents and Local Governments.—Meetings were held by the Railway Board with the Agents of the principal railways in October 1929 at Simla and in March 1930 in New Delhi. The following subjects among others were discussed at these meetings:—

Supply of drinking water to passengers in trains.
Assistance to passengers at stations.
Cleansing of latrines in trains.
Introduction of containers.
Accidents at level crossings to motor vehicles.
Enforcement of penalties in contracts for supply of stores.
Recruitment of subordinate staff.
Lack of uniformity in the pass rules on Railways.
Co-operative credit societies on Railways.
Railway publicity.
Limitation of liability of railways as regards the property or person of any pass-holder.
Uniform colour for the coaching stock of all railways.
Concessions to film producing companies.
The nature of the subjects that can be discussed by Local Advisory Committees.

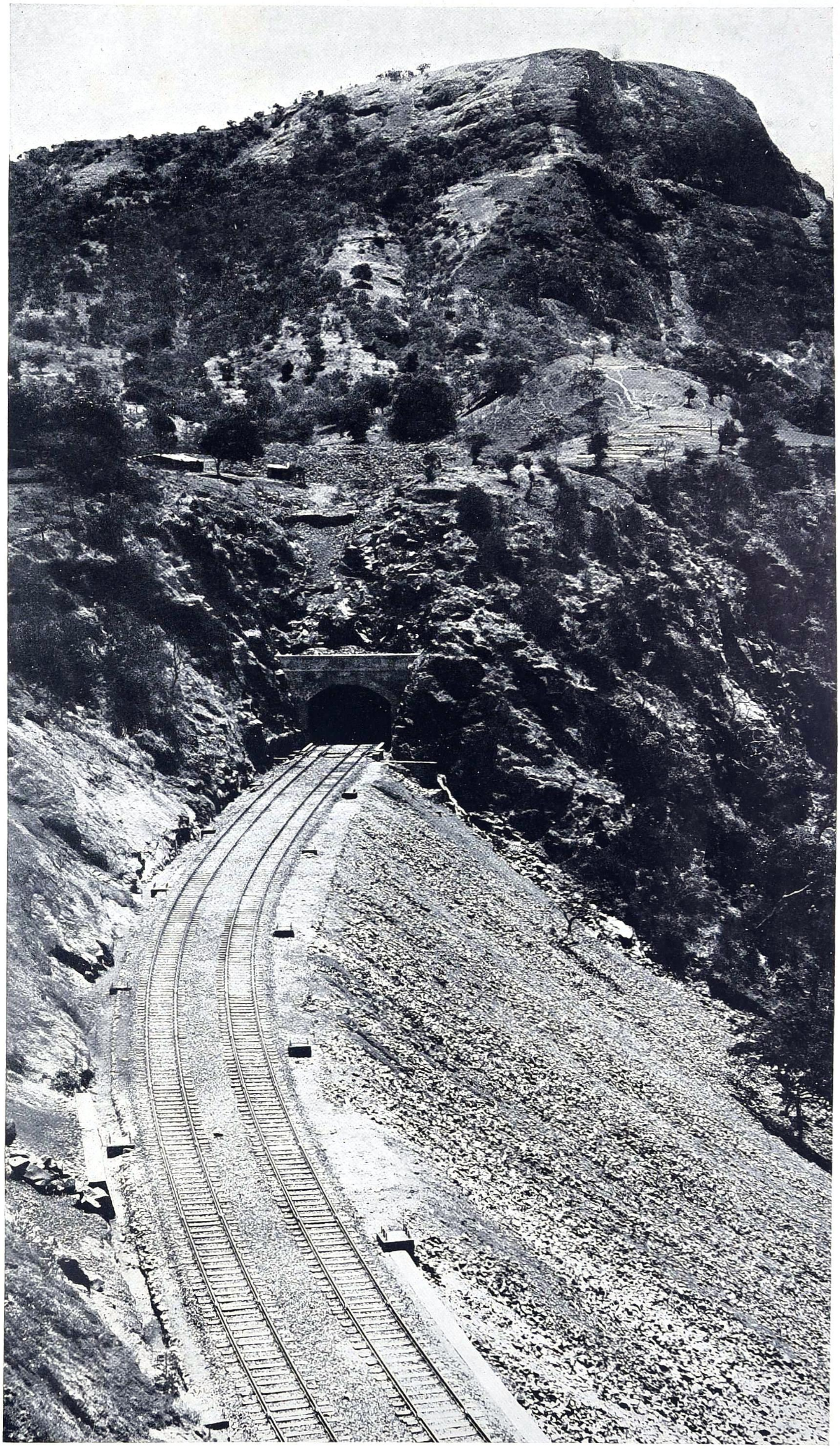
Twenty visits were paid by the Chief Commissioner, the Financial Commissioner or a member of the Board to the headquarters of Railway Administrations and six to Local Governments. Copies of the tour programmes of the Honourable Member for Railways, the Chief Commissioner, the Financial Commissioner and Members of the Railway Board were sent in advance to Local Governments and important mercantile associations, besides being communicated to the press.

14. Local Advisory Committees.—In previous reports references have been made to the work that is being done by Local Advisory Committees on railways in bringing to the notice of their respective railway administrations matters affecting the general public in their capacity as users of the railway. These committees have been established and are functioning on all Class I Railways, except His Exalted Highness the Nizam's Guaranteed State Railways and the Jodhpur Railway. During the course of the year, the Barsi Light Railway constituted an Advisory Committee for that line.

These committees constitute a valuable link between railways and their clientele. The interest taken in their work and the value attached to their influence have been reflected in the requests received from trade associations and other organisations for representation on the committees. It has not always been possible to accede to these requests as it is felt that the usefulness of the committees is likely to be impaired if their constitution becomes unwieldy. A demand for the publication of a summary showing the work done by these committees found expression particularly during the debate on the Railway Budget in February 1928 and was repeated on a similar occasion in February 1929. To meet this demand, a pamphlet showing in tabulated form the subjects discussed, the recommendations of the committees accepted by the railway administration concerned, with or without modifications, and the recommendations which, for various reasons, could not be accepted, in connection with meetings held during the half year ending September 1929 was published and copies distributed to members of the Imperial Legislature before the Railway Budget debate in February 1930. Since then, similar pamphlets for succeeding quarters have been published, and copies made available for sale at the Government of India Central Publication Branch, Calcutta.

The number of meetings of these committees held at each centre during the year was 122, as follows:—

Assam Bengal Railway	2
Barsi Light Railway	1
Bengal Nagpur Railway—	
Calcutta (Bengal)	9
Patna (Bihar and Orissa)	3
Nagpur (Central Provinces)	3
Bengal and North-Western Railway—	
Gorakhpur (United Provinces)	3
Muzaffarpur (Bihar and Orissa)	4
Bombay, Baroda and Central India Railway	10
Burma Railways	11
Eastern Bengal Railway	8
East Indian Railway—	
Calcutta (Bengal)	10
Cawnpore and Lucknow alternatively (United Provinces)	6
Great Indian Peninsula Railway—	
Bombay	10
Nagpur (Central Provinces)	4
Cawnpore (United Provinces)	3
Madras and Southern Mahratta Railway—	
Madras	5
Hubli (Deccan and Southern Mahratta)	8
North Western Railway—	
Lahore (Punjab)	12
Karachi (Sind)	4
Rohilkund and Kumaon Railway	2
South Indian Railway	4



Bhore Ghat—View from the top of Tunnel No. 25 showing Tunnel No. 26.

A perusal of the index of the pamphlets referred to above, which are now being published quarterly, indicates the wide variety of subjects dealt with by Local Advisory Committees, some of which may be specially mentioned supplementing the list given in the reports for previous years:—

Advertising railway facilities in the vernacular press.
Prevention of the beggar nuisance at stations.
Opening of book-stalls.
Detention to traffic on level crossings.
Accommodation for female passengers.
Facilities for unloading goods traffic.
Provision of train indicators.
Arrangements for the Kumbh Mela in January 1930.
Lighting road bridges, over-bridges and waiting halls.
Arrangements for weighment of passengers' luggage.
Improvement in over-bridges.
Opening of out-agencies.
Display of porters' tariffs.
Provision of warning bells in Indian refreshment rooms.
Retiring rooms at stations.
Provision of servants' compartments in upper class stock.
Changes in names of stations.
Stoppage of fast trains at small stations.
Issue of platform tickets.
Improvement in design of coaching stock.
Shortage of wagons.
Provision of special coaches for vendors of fruit and vegetables.

15. **Railway Rates Advisory Committee.**—The Railway Rates Advisory Committee which was constituted in 1926 continued to function under the presidentship of Sir Narsimha Sarma, late Law Member of His Excellency the Viceroy's Executive Council. The committee had three cases under enquiry on the 1st April 1929, and the following eight others were referred to them for investigation during the year:—

(*i*) Complaint from Messrs. Chaturvedi Jamna Prasad & Co., Jaunpur, in regard to the rates charged for biddy leaves over the Bengal Nagpur, Great Indian Peninsula and East Indian Railways from Birsingpur to Jaunpur.

(*ii*) Complaint from Messrs. Sheo Dayal Ramji Dass, Jaunpur, against the East Indian Railway in connection with the rates for salt from *viâ* Cawnpore to certain stations which, it was alleged, were on a higher basis than the corresponding rates on another line.

(*iii*) Complaint from the Sri Ranga Villas Ginning, Weaving and Spinning Mills, Coimbatore, regarding the rate charged for yarn from Coimbatore to Shalimar over the South Indian, Madras and Southern Mahratta and Bengal Nagpur Railways which, it was alleged, constituted preferential treatment owing to a lower rate being charged for similar traffic from Madura to Shalimar.

(*iv*) Complaint from the proprietors of a rice mill at Chakulia regarding the alleged high rates charged over the Bengal Nagpur Railway for rice and paddy to and from Chakulia.

(*v*) Complaint from the Calicut Chamber of Commerce against the Madras and Southern Mahratta Railway for not allowing for raw materials for the manufacture of manures the same rates as were being allowed on the South Indian Railway.

(*vi*) Complaint from the Kalyanpur Lime Works, Calcutta, regarding the alleged unreasonableness of rates over the East Indian Railway for lime from Dehri-on-Sone to Howrah and certain stations on the Bengal and North-Western Railway as compared with the corresponding rates from certain competing centres on the Naini-Jubbulpore section of the Great Indian Peninsula Railway.

(*vii*) Complaint from certain sugar factory proprietors at Cawnpore regarding the rates for jagree over the Bengal and North Western Railway when consigned to stations on other railways *viâ* Cawnpore, the allegation being that the rates were unduly high.

(*viii*) Complaint from certain fruit dealers in Calcutta regarding the minimum weight condition, applicable for a rate quoted by the East Indian Railway for mangoes from *viâ* Mokameh Ghat to Howrah, being too high to enable them to take advantage of the rate.

Of these eight cases, the last mentioned was compromised when it came up for hearing before the committee. The first five were reported on by the committee during the year under review and the recommendations made by them, which were all in favour of the railway administrations concerned, were accepted by Government. The committee also reported on two other cases which had been referred to them during the previous year. These were :—

(*i*) Complaint from a dealer in marble regarding the high rates charged from Bombay to stations on the South Indian Railway over the Great Indian Peninsula, Madras and Southern Mahratta and South Indian Railways.

(*ii*) Complaint from the Burhanpur Tapti Mill regarding the rate for piecegoods from Burhanpur to Calcutta being higher than from Bombay to Calcutta, which it was alleged constituted preferential treatment.

The recommendations of the committee in both these cases—in the first in favour of the complainant and in the second in favour of the railways concerned—were accepted by Government.

At the close of the year, the committee had under investigation two out of the eight cases referred to them during the year and one, dealing with the question of the levy by the Assam Bengal Railway of terminal charges on loose jute, which had been referred to them in October 1928. The enquiry in the latter case has been prolonged owing to the necessity for compiling detailed statistics showing the earnings from terminal charges and the expenditure on terminal facilities.

16. Purchase of His Exalted Highness the Nizam's Guaranteed State Railways by the Nizam's Government.—Under an agreement entered into between His Exalted Highness the Nizam's Government and the Nizam's Guaranteed State Railways Company Limited, the Nizam's Guaranteed State Railways system, which was the property of the Company, was acquired, and its management taken over, by His Exalted Highness the Nizam's Government at the close of the year under review. The railway system is now known as His Exalted Highness the Nizam's State Railway. The transfer of ownership and management of this railway system to His Exalted Highness the Nizam's Government has involved the transfer to that Government, with effect from the same date, of the management of two branch lines owned by the Government of India, namely the Bezwada Extension Railway and the Dhone Kurnool Railway together with its extension to the British frontier, which were up to that date being worked by His Exalted Highness the Nizam's Guaranteed State Railways Company.

Bhore Ghat—View from the top of Tunnel No. 26.

CHAPTER II.

FINANCIAL RESULTS.

17. The principal results of the working of railways are summarised in the table below :—

—		Class I Railways.	Other Railways.	Total of all Railways.
(*i*) Total route mileage open for traffic.	1928-29	36,748	4,202	40,950
	1929-30	**37,535**	**4,189**	**41,724**
(*ii*) Number of passengers originating.	1928-29	583,848,400*	36,198,200	620,046,600*
	1929-30	**597,779,600**	**36,517,800**	**634,297,400**
(*iii*) Number of passenger miles.	1928-29	21,246,413,000*	849,566,000	22,095,979,000*
	1929-30	**22,194,143,000**	**858,857,000**	**23,053,000,000**
(*iv*) Tons originating	1928-29	86,989,000*	3,841,000	90,830,000
	1929-30	**85,964,000**	**1,412,000**	**87,376,000**
(*v*) Number of ton miles	1928-29	21,645,237,000*	243,732,000	21,888,969,000*
	1929-30	**21,265,305,000**	**259,332,000**	**21,524,637,000**

* Revised figures.

18. Trade Review.—*Exports.*—The vagaries of the monsoon were reflected in the trade figures for the year under review. The total value of exports recorded was Rs. 311 crores, which meant a decline of 6 per cent on the corresponding figure for 1928-29. The outstanding feature was a decline in the exports of jute, raw and manufactured. Shipments of raw jute declined from 898,000 tons (Rs. 32·35 crores) to 807,000 tons (Rs. 27·17 crores). Exports of jute manufactures also went down in value from Rs. 56·90 crores to Rs. 51·93 crores, the quantity, however, showing an increase of 46,000 tons over 1928-29. Although the cotton crop of the year was 9 per cent. below the previous crop, shipments of raw cotton sprang up from 663,000 tons to 727,000 tons under the stimulus of lower prices, the value of the exports falling from Rs. 66·25 crores to Rs. 65·08 crores. Exports of cotton manufactures also declined by Rs. 61 lakhs. Despatches of cotton twist and yarn advanced from 24·3 million lbs. to 24·6 million lbs., although the value receded by Rs. 6 lakhs. Piecegoods exported during the year amounted to 133 million yards valued at Rs. 4·67 crores, a decline of 16 million yards in quantity and of Rs. 70 lakhs in value in comparison with the figures for 1928-29. Shipments of oilseeds also declined from 1,328,000 tons (Rs. 29·63 crores) to 1,195,000 tons (Rs. 26·47 crores). The principal item responsible for the decline under this head was groundnuts, exports of which decreased from 788,400 tons to 714,200 tons owing to a reduction of 23 per cent. in the yield of the year's harvest. Linseed, however, recorded an increase of 91,400 tons. Exports of grains, pulse and flour showed a gain of 210,000 tons owing mainly to an improvement in the trade in rice, exports of which recovered from 1·8 million tons valued at Rs. 26·47 crores to 2·3 million tons valued at Rs. 31·51 crores. Shipments of wheat further receded during the year from 115,000 tons to 13,000 tons notwithstanding an increase of 9 per cent. in the crop outturn of 1928-29 over that of 1927-28. Tea showed an increase in quantity from 359·6 million lbs. to 376·6 million lbs., although as a result of the slump in world tea trade, the declared value was down by Rs. 60 lakhs. Hides and skins recorded a decline of 13,000 tons under the raw varieties and of 2,500 tons under tanned or dressed. Exports of lac were also on the lower side, having been returned at 668,900 cwts. (Rs. 6·97 crores) against 743,400 cwts. (Rs. 8·64 crores) recorded in 1928-29.

Imports.—The total value of imports of foreign merchandise during 1929-30 amounted to Rs. 241 crores, a decrease of 5 per cent. on the figure for 1928-29. The chief decreases of the year were recorded under yarns and textile fabrics (Rs. 6 crores), metals and manufactures thereof (Rs. 3⅓ crores) and grain, pulse and flour (Rs. 5⅓ crores). Coming to details, imports of cotton manufactures declined from Rs. 63 crores to Rs. 59 crores and those of iron and steel and manufactures thereof fell off by Rs. 3 crores to Rs. 17 crores. Imports of raw cotton further declined from 28,900 tons to 24,000 tons. Imports of wheat, which had reached a total of 562,000 tons in 1928-29 fell to 357,000 tons during the year under review. Imports of sugar, however, advanced from 937,000 tons to 1,011,000 tons, but the value fell from Rs. 16·09 crores to Rs. 15·78 crores. There was an increase of 11 million gallons in quantity and of Rs. 34 lakhs in value under mineral oils.

The visible balance of trade in merchandise and treasure in 1929-30 was Rs. 53 crores in favour of India, as compared with Rs. 52 crores in 1928-29.

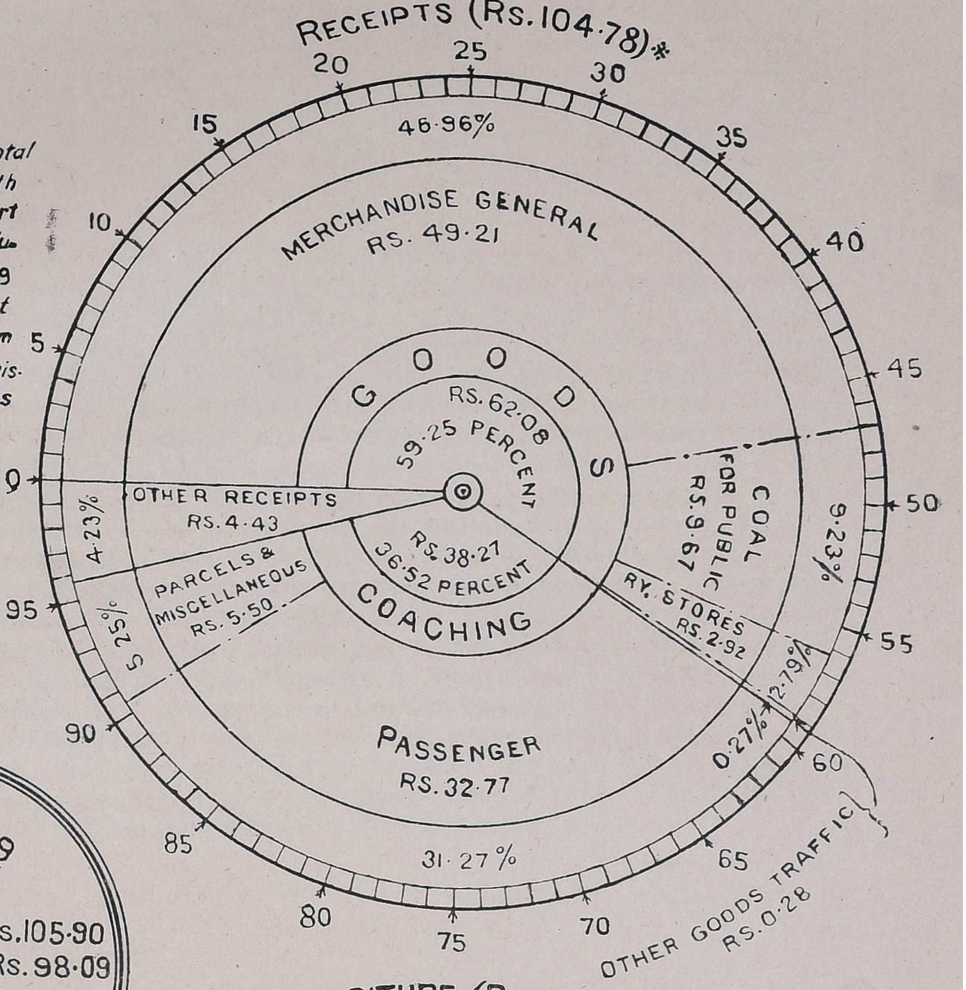
19. Financial results of working.—The depressed state of the Indian trade in 1929-30 is reflected also in the poorer yield from the working of the Indian state-owned railways. The net gain to the Central government from the working of its railways in the year amounted to 4·04 crores only which is 3¾ crores less than that of 1928-29, which was itself lower than that of 1927-28 by 3 crores. As the net gain was insufficient to meet the contribution payable to general revenues during the year, it had to be made good by a withdrawal from the reserve fund to the extent of 2·08 crores. The statement below compares the results of working of the two years 1928-29 and 1929-30.

(Figures in thousands)

	1928-29. Rs.	1929-30. Rs.
(*i*) (*a*) Gross Earnings	1,04,33,74	**1,02,70,29**
(*b*) Surplus profits from subsidized companies	38,84	**58,71**
(*c*) Interest on Depreciation and reserve Funds	1,06,20	**1,27,66**
(*d*) Other Miscellaneous Railway Receipts	11,57	**21,46**
Total Receipts	1,05,90,35	**1,04,78,12**
(*ii*) (*a*) Working expenses (excluding Depreciation)	54,82,70	**55,58,95**
(*b*) Depreciation	11,99,75	**12,58,98**
(*c*) Surplus profits paid to Companies	1,59,14	**1,51,98**
(*d*) Land and Subsidy to Companies	2,91	**4,39**
(*e*) Interest	29,32,96	**30,46,06**
(*f*) Miscellaneous Railway Expenditure	31,95	**54,12**
Total	98,09,41	**1,00,74,48**
(*iii*) Net Gain	7,80,94	**4,03,64**
(*iv*) (*a*) Contribution from railway to general revenues (including ⅓ excess of railway surplus over 3 crores)	5,23,20	**6,11,86**
(*b*) Surplus railway revenue transferred to Railway Reserve Fund	2,57,74	...
(*c*) Amount transferred from Railway Reserve Fund to meet the contribution to general revenues	...	**2,08,22**
Total	7,80,94	**4,03,64**

RAILWAY RECEIPTS AND EXPENDITURE ON STATE OWNED LINES IN INDIA IN 1929-30.

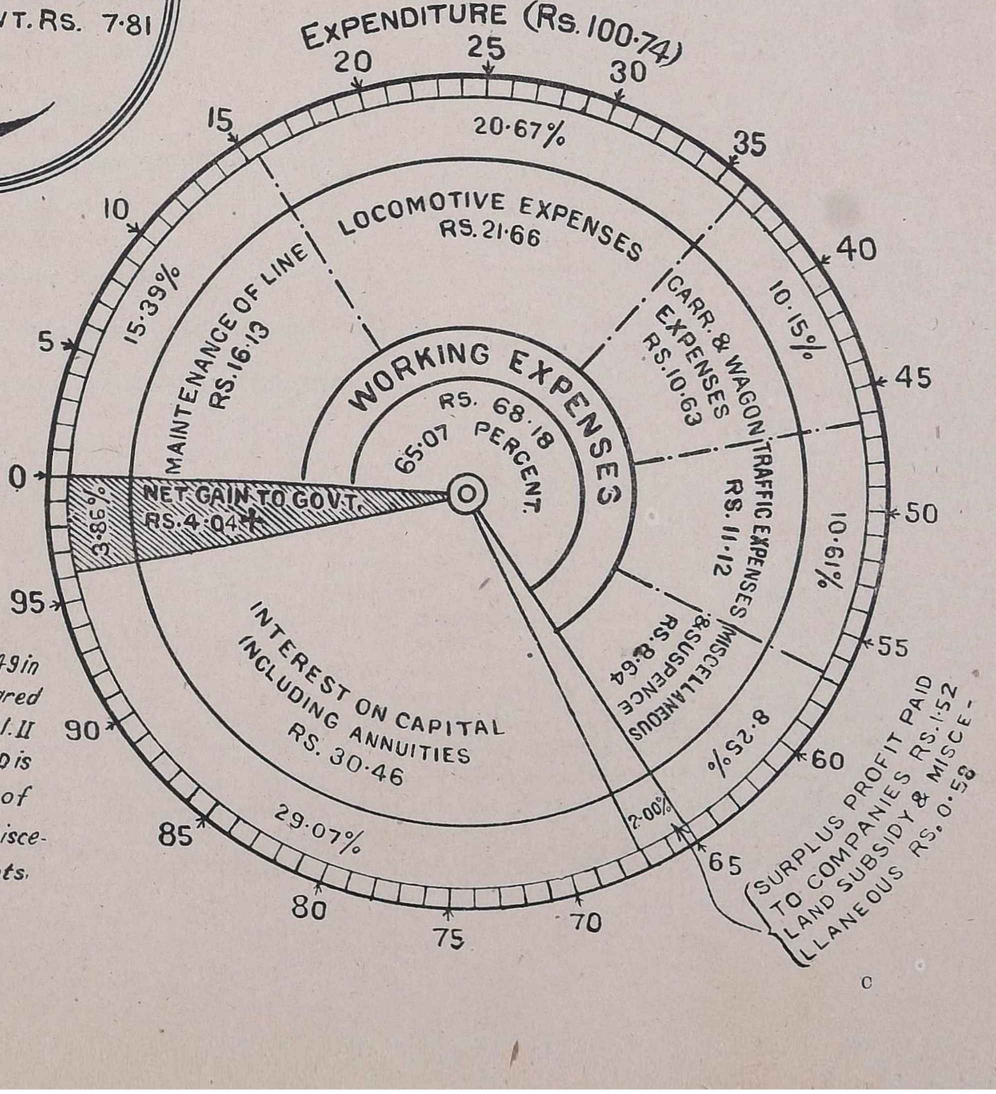
FIGURES IN CRORES



* The difference of Rs. 2·08 in total receipts as compared with St. No. 3 of vol. II of the report for 1929-30 is due to the inclusion of Rs. 0·59 and Rs. 1·49 on account of Government share of surplus profits from subsidized companies and miscellaneous Railway receipts respectively.

IN 1928-29

TOTAL RECEIPTS Rs. 105·90
TOTAL EXPENDITURE Rs. 98·09
NET GAIN TO GOVT. Rs. 7·81



\+ The difference of Rs. 1·49 in net gain to Govt. as compared with summary No. I of vol. II of the report for 1929-30 is due to the inclusion of Rs. 1·49 on account of miscellaneous railway receipts.

20. The decrease of $3\frac{3}{4}$ crores in the net gain of 1929-30 is due chiefly to a decrease of $1\frac{2}{3}$ crores in gross earnings, which, to the extent of about half a crore, was off-set, however, by other receipts, and to increases in working expenses (including depreciation) and interest charges amounting to about $2\frac{1}{2}$ crores. The increase in interest charges would have been higher but for the reduction in the average rate of interest from 5·63 in 1928-29 to 5·31 in 1929-30.

21. Except the South Indian Railway which showed a record increase of 70 lakhs in earnings due to the opening of new lines and to less earnings in 1928-29 resulting from the general strike, and, to a small extent, the Bengal Nagpur Railway, whose goods earnings increased by 17 lakhs, the decrease in earnings on practically all railways in India was due to the general trade depression. The Great Indian Peninsula Railway suffered most by a falling off mainly of goods earnings which were considerably affected by the partial failure of crops in certain areas, and by poor market conditions. The decrease of 57 lakhs on the East Indian Railway is principally due to the movement up-country from Calcutta of Australian wheat and Burma rice in 1928-29, the necessity for which did not arise in 1929-30, owing to improved crops in the area served by the previous year's movement of wheat and rice. The Bombay, Baroda and Central India, the Eastern Bengal, and the Madras and Southern Mahratta Railways which come next in order with decreases of 45,36 and 25 lakhs respectively were affected by the prevailing economic conditions and in the case of the Madras and Southern Mahratta Railway, the previous year (1928-29) was an exceptionally good year with record earnings. The loss on the Burma Railways is wholly due to the fall in coaching earnings resulting from road motor competition. The variations on the individual railways are shown in the table below :—

	Decrease—, Increase+ Lakhs.
North Western	+ 1
Eastern Bengal	– 36
East Indian	– 57
Great Indian Peninsula	– 86
Burma	– 9
Bengal Nagpur	+ 17
Bombay, Baroda and Central India	– 45
Madras and Southern Mahratta	– 25
South Indian	+ 70
Other railways	+ 7
	–163

22. The ordinary working expenses excluding depreciation were $\frac{3}{4}$ crore more in 1929-30 than in 1928-29. The increase would have been about 40 lakhs more, but for the adoption on certain company-managed railways of the State railway procedure under which the credits for materials released from replacement and renewal works are taken in reduction of Working Expenses—Repairs and Maintenance—and not in reduction of the expendi-

ture on such works chargeable to the Depreciation fund. The variations in expenditure on the individual railways are shown in the table below :—

	Increase +, Decrease — Lakhs.
Bengal Nagpur	+55
Bombay, Baroda and Central India	+ 2
Burma	–19
Eastern Bengal	– 8
East Indian	+ 8
Great Indian Peninsula	–14
Madras and Southern Mahratta	– 7
North Western	+52
South Indian	+21
Other railways	+26
Net adjustment relating to credits from released materials on certain company-managed railways and transfer of replacement and renewal expenditure on non-wasting assets	–40
Total	+76

23. The heaviest increases were on the Bengal Nagpur and North Western Railways, which together accounted for an increase of over a crore in working expenses. Heavy repairs to track and buildings and in workshops and increases in operating costs arising from increased traffic were the principal causes of the rise in working expenses on the Bengal Nagpur Railway. The extensive flood damages on the North Western Railway mainly contributed to increase the repairs and maintenance charges on that railway. On the South Indian Railway, the causes that contributed to the increase of 70 lakhs in earnings operated also to cause an increase in working expenses; but that the increase is not more than 21 lakhs is due, to a large extent, to the heavy gratuity payments made in 1928-29 to the workshop staff brought under reduction. Of the minor railways which together accounted for an increase of 26 lakhs in working expenses, about 7½ lakhs was on the Assam Bengal Railway mainly owing to repairs necessitated by abnormal flood damages and about 8 lakhs on the Bengal and North Western (Tirhoot) Railway owing to the erection and conversion of certain engines and the purchase of certain wagons. Arrear adjustments of additional interest and maintenance charges on account of the Bezwada joint station from 1908 added about 4½ lakhs to the working expenses of the Bezwada Extension Railway.

The reduction in working expenses of just about half a crore on the Burma, Great Indian Peninsula, Eastern Bengal and Madras and Southern Mahratta Railways is principally due to decreases in repairs and maintenance charges resulting from heavy adjustments and repairs of damages by floods in the previous year.

24. In the table below the working expenses of 1928-29 and 1929-30 are compared by the major heads for which grants are voted by the Legislative Assembly.

(Figures in thousands.)

	1928-29. Rs.	1929-30. Rs.	Difference. Rs.
1. General Administration	14,19,92	**14,39,85**	+ 19,93
2. Repairs and Maintenance and Operation	44,58,57	**44,48,33**	– 10,24
3. Appropriation to Depreciation Fund	11,99,75	**12,58,98**	+ 59,23
Total	70,78,24	**71,47,16**	+ 68,92
Deduct—Worked lines and Suspense	3,95,79	**3,29,23**	– 66,56
Total Working Expenses	66,82,45	**68,17,93**	+1,35,48

25. The comparatively small increase of 20 lakhs in 1929-30 under General administration and the reduction of 10 lakhs under Repairs and

Maintenance and Operation are due partly to the special causes enumerated in the foregoing paragraph, *viz.*, the abnormal payments and adjustments and partly to the credits from materials released from replacement and renewal works. The increase of 59 lakhs in the Appropriation to the Depreciation Fund follows the increase in capital expenditure. The large reduction of 67 lakhs in the share of working expenses recoverable from worked lines arises partly from the purchase of the Southern Punjab Railway, but chiefly from a suspense credit of 32 lakhs adjusted in reduction of working expenses in 1928-29.

26. The contribution to General Revenues amounted to 612 lakhs, or 89 lakhs more than in 1928-29. The statement below shows how this is arrived at :—

(Based on actuals of penultimate year 1927-28.)

(Figures in thousands of rupees.)

	Rs.	Rs.
1. 1 per cent. on capital of 6,62,32,58 at charge—commercial lines—to end of 1927-28	...	6,62,33
2. (*i*) Receipts (1927-28)—		
Gross traffic receipts—commercial lines	1,02,63,33	
Subsidized companies—share of surplus profits	35,60	
Interest on depreciation and reserve fund balances and dividends on investments in branch lines and miscellaneous receipts	88,03	
TOTAL RECEIPTS		1,03,86,96
(*ii*) Charges (1927-28)—		
Working expenses—commercial lines	63,29,69	
Indian States and railway companies' share of surplus profits	1,57,14	
Land and subsidy	5,32	
Interest—		
On capital at charge— commercial lines	24,41,19	
On capital contributed by Indian States and companies	1,51,86	
Miscellaneous railway expenditure	48,12	
Contribution at 1 per cent. on capital at charge—commercial lines	6,62,33	
TOTAL CHARGES		97,95,65
(*iii*) Surplus		5,91,31
(*iv*) Contribution of one-fifth of surplus		1,18,26
3. Total contribution from railway revenues 1 *plus* 2 (*iv*)		7,80,59
Deduct—Loss on strategic lines—		
(*i*) Interest on capital of 32,41,79	1,34,03	
(*ii*) Loss in working	34,70	
		1,68,73
4. Net payment due from railway to general revenues in 1929-30		6,11,86
5. Deficit in the payment of contribution to General Revenues met by transfer from Railway Reserve Fund, arrived at as follows:—		
(*i*) Total receipts including Government share of surplus profits from subsidized companies and interest on depreciation and reserve fund balances and other miscellaneous receipts	1,04,78,12	
(*ii*) Total charges (including surplus profits paid to companies, interest and other miscellaneous charges	1,00,74,48	
(*iii*) Total gain from railways during 1929-30	4,03,64	
(*iv*) **Deficit in gain to meet contribution 4-5 (*iii*)**	**2,08,22**	
(*v*) Contribution equal to ⅓ excess over 3 crores	...	
6. Total contribution to General Revenues during 1929-30 4 *plus* 5 (*v*)	6,11,86	

27. The return during 1929-30 on the total capital at charge of both commercial and strategic lines is 4·65 per cent. or about ½ per cent. less than in 1928-29. This compares with the returns during the last 5 years as follows :—

1924-25	5·85
1925-26	5·31
1926-27	5·05
1927-28	5·41
1928-29	5·22
1929-30	4·65

28. The amount appropriated to the depreciation fund by debit to the working expenses of state-owned railways and the amounts drawn from this fund to meet the expenditure incurred on replacements and renewals actually carried out on those railways during 1928-29 and 1929-30 are given in the statement below :—

(Figures in thousands of rupees.)

Railways.	Credits to Depreciation Fund by debit to Revenue on account of depreciation in 1928-29.	Amount spent on Replacements and Renewals and charged to Depreciation Fund in 1928-29.	Credits to Depreciation Fund by debit to Revenue on account of depreciation in 1929-30.	Amount spent on Replacements and Renewals and charged to Depreciation Fund in 1929-30.
State Lines managed by State.				
North Western	2,46,09	1,70,95	2,58,35	1,41,44
Eastern Bengal	82,88	50,79	86,36	62,01
East Indian	2,15,53	1,25,61	2,21,29	2,46,75
Great Indian Peninsula	1,66,62	2,04,11	1,82,56	1,06,56
Burma	46,66	25,13	48,28	49,73
Aden	33	11	11	1,51
State Lines managed by Companies.				
Bengal Nagpur	1,18,07	1,66,10	1,23,95	2,04,12
Bombay, Baroda and Central India	1,29,60	68,70	1,33,15	96,57
Madras and Southern Mahratta	87,07	63,78	90,05	94,95
South Indian	59,52	55,30	65,30	88,83
Other railways	47,38	29,26	49,58	43,35
Net result of adjustment of credits on account of released materials and expenditure on non-wasting assets of company-worked railways under Repairs and Maintenance.	...	...	...	40,35
TOTAL	11,99,75	9,59,84	12,58,98	11,76,17

29. An analysis of the financial results of the working of the railways owned by the State is given in the statement below, for the last three years, by each railway :—

(Figures in thousands of rupees.)

Railways.	Year.	(d) Capital at charge.	*Deduct* amount of capital contributed by Companies and Indian States.	Net Government Capital at charge.	Receipts.	Working Expenses including Depreciation.	Net Receipts.	Percentage of Net Receipts on Capital at charge.	Charge against Net Revenue Receipts. Payment on account of share of Surplus Profits.	Charge against Net Revenue Receipts. Interest Annuity and Sinking Fund charges.	Gain.	Loss.
1	2	3	4	5	6	7	8	9	10	11	12	13
State Lines managed by State.												
North Western	1927-28	1,33,10,61	...	1,33,10,61	16,59,28	11,94,93	4,64,35	3·5	...	5,09,35	...	45,00
	1928-29	1,36,53,60	...	1,36,53,60	15,97,24	12,07,68	3,89,56	2·9	...	5,54,59	...	1,65,03
	1929-30	**1,46,46,71**	...	**1,46,46,71**	**15,97,70**	**12,71,84**	**3,25,86**	**2·2**	...	**5,79,44**	...	**2,53,58**
Eastern Bengal	1927-28	46,81,70	...	46,81,70	7,08,20	4,59,64	2,48,56	5·3	...	1,68,46	80,10	...
	1928-29	47,83,76	...	47,83,76	7,08,98	4,75,12	2,33,86	4·9	...	1,79,98	53,88	...
	1929-30	**49,84,72**	...	**49,84,72**	**6,73,07**	**4,70,70**	**2,02,37**	**4·0**	...	**1,86,84**	**15,53**	...
East Indian	1927-28	1,40,16,48	...	1,40,16,48	20,66,85	12,15,10	8,51,75	6·1	...	5,32,71	3,19,04	...
	1928-29	1,39,75,44	59,96	1,39,15,48	20,41,85	12,28,09	8,13,76	5·9	...	5,70,19	2,43,57	...
	1929-30	**1,43,46,77**	**59,96**	**1,42,86,81**	**19,85,18**	**12,42,14**	**7,43,04**	**5·2**	...	**5,81,73**	**1,61,31**	...
Great Indian Peninsula	1927-28	1,13,92,91	...	1,13,92,91	15,22,67	9,91,02	5,31,65	4·7	...	3,90,87	1,40,78	...
	1928-29	1,11,82,28	...	1,11,82,28	15,44,00	10,17,61	5,26,39	4·7	...	4,18,70	1,07,69	...
	1929-30	**1,15,48,13**	...	**1,15,48,13**	**14,58,35**	**10,19,72**	**4,38,63**	**3·8**	...	**4,30,95**	**7,68**	...
Burma	1927-28	31,35,12	6,69,67	24,65,45	5,06,63	2,97,71	2,08,92	6·1	35,63	1,11,83	61,46	...
	1928-29	32,76,06	...	32,76,06	4,96,38	3,23,05	1,73,33	5·3	45,52	1,23,34	4,47	...
	1929-30	**34,75,53**	...	**34,75,53**	**4,87,13**	**3,05,36**	**1,81,77**	**5·2**	**§18,48**	**1,58,80**	**4,49**	...
State Lines managed by Companies.												
Bengal Nagpur	1927-28	70,18,68	10,53,13	59,65,55	9,17,45	6,22,94	2,94,51	4·2	8,72	3,06,10	...	20,31
	1928-29	71,61,07	10,53,13	61,07,94	9,14,15	6,31,28	2,82,87	3·9	7,47	3,22,63	...	47,23
	1929-30	**74,16,49**	**10,53,13**	**63,63,36**	**9,31,44**	**6,92,25**	**2,39,19**	**3·2**	...	**3,22,13**	...	**82,94**

(Figures in thousands of rupees.)

Railways.	Year.	(d) Capital at charge.	*Deduct* amount of capital contributed by Companies and Indian States.	Net Government Capital at charge.	Receipts.	Working Expenses including Depreciation.	Net Receipts.	Percentage of Net Receipts on Capital at charge.	Charge against net Revenue Receipts. Payment on account of share of Surplus Profits.	Charge against net Revenue Receipts. Interest Annuity and Sinking Fund charges.	Gain.	Loss.
1	2	3	4	5	6	7	8	9	10	11	12	13
State Lines managed by Companies—concld.												
Bombay, Baroda and Central India	1927-28	71,49,30	2,52,32†	68,96,98	11,45,28	7,20,04	4,25,24	5·9	15,12‡	2,52,60	1,57,52	...
	1928-29	70,24,26	2,52,46†	67,71,80	11,96,98	7,48,88	4,48,10	6·3	15,73‡	2,68,23	1,64,14	...
	1929-30	**71,63,85**	**2,49,00†**	**69,14,85**	**11,51,68**	**7,53,94**	**3,97,74**	**5·6**	**17,91‡**	**2,69,04**	**1,10,79**	...
Madras and Southern Mahratta	1927-28	55,30,58	10,07,08	45,23,50	8,65,90	4,77,47	3,88,83	7·0	76,27‡	2,08,57	1,03,59	...
	1928-29	54,75,45	10,07,08	44,68,37	9,22,87	4,88,51	4,34,36	7·9	73,22‡	2,23,44	1,37,70	...
	1929-30	**56,47,17**	**10,07,08**	**46,40,09**	**8,97,54**	**4,84,92**	**4,12,62**	**7·3**	**96,94‡**	**2,26,97**	**88,71**	...
South Indian	1927-28	33,96,76	4,15,33‖	29,81,43	5,80,67	3,13,80	2,66,87	7·1	10,54‡	1,51,68	1,24,65	...
	1928-29	35,87,53¶	4,15,33‖	31,72,20	5,63,24	3,23,20	2,40,04	6·6	6,27‡	1,52,61	81,16	..
	1929-30	**38,55,12**	**4,95,81‖**	**33,59,31**	**6,32,74**	**3,50,01**	**2,82,73**	**7·3**	**10,34‡**	**1,59,23**	**1,13,16**	...
Other railways	1927-28	37,11,95	5,14,56	31,97,39	4,50,79	2,40,47	2,10,32	5·7	10,86	1,14,91	84,55	...
	1928-29	37,92,19	4,54,61	33,37,58	4,48,05	2,39,03	2,09,02	5·5	10,93	1,19,25	78,84	...
	1929-30	**39,13,61**	**4,54,60**	**34,59,01**	**4,55,46**	**2,67,40**	**1,88,06**	**4·8**	**8,31**	**1,30,93**	**48,82**	...
Suspense	1927-28	...	...	...	...	—8,77	8,77	...	...	...	8,77	...
	1928-29	...	...	...	...	...	...	...	...	...	...	...
	1929-30	...	...	...	...	...	...	...	...	...	...	...
Net result of adjustment of credits on account of released materials and expenditure on non-wasting assets of company-managed railways under Repairs and Maintenance.	**1929-30**					**—40,35**	**40,35**				**40,35**	

Interest on Depreciation and Reserve Fund balances	1927-28	...	...	...	81,48	...	81,48	...	...	...	81,48	...
	1928-29	...	...	...	1,06,20	...	1,06,20	...	...	...	1,06,20	...
	1929-30	...	...	...	**1,27,66**	...	**1,27,66**	...	...	...	**1,27,66**	...
Net Miscellaneous Receipts and Charges not attributable to any one Railway.	1927-28	...	..	...	...	...	...	...	...	...	...	**11,72**
	1928-29	..	...	...	...	...	...	...	...	...	15,55	...
	1929-30	..	...	...	...	...	...	...	...	...	**21,66**	...
Total Central)	1927-28	7,33,44,09	39,12,09	6,94,32,00	1,05,95,20	65,24,35‡	39,80,85	5·4	1,57,14	27,27,08	10,84,91‡	...
	1928-29	7,39,11,64	32,42,57	7,06,69,07	1,05,39,94	66,82,45	38,57,49	5·2	1,59,14	29,32,96	7,80,94	...
	1929-30	**7,69,98,10**	**33,19,58**	**7,36,78,52**	**1,03,97,95**	**68,17,93**	**35,80,02**	**4·6**	**1,51,98**	**30,46,06**	**4,03,64**	...
Provincial Railways	1927-28	14,94	..	14,94	1,13	1,02	11	0·7	...	57	...	46
	1928-29	14,61	...	14,61	1,03	5	98	...	...	55	43	...
	1929-30	**14,61**	...	**14,61**	(a)2,88	...	2,88	...	...	**56**	**2,32**	...
Grand Total (Central and Provincial)	1927-28	7,33,59,03	39,12,09	6,94,46,94	1,05,96,33	65,25,37	39,80,96	5·4	1,57,14	27,27,65	10,84,45	...
	1928-29	7,39,26,25	32,42,57	7,06,83,68	1,05,40,97	66,82,50	28,58,47	5·2	1,59,14	29,33,51	7,81,37	...
	1929-30	**7,70,12,71**	**33,19,58**	**7,36,93,13**	**1,04,00,83**	**68,17,93‡**	**35,82,90**	**4·6**	**1,51,98**	**30,46,62**	**4,05,96**	...
North Western (Commercial)	1927-28	1,00,68,84	...	1,00,68,84	14,99,84	10,01,22	4,98,62	6·8	...	3,75,32	1,23,30	...
	1928-29	1,03,43,31	..	1,03,43,31	14,31,69	10,10,18	4,21,51	4·0	...	4,12,77	8,74	...
	1929-30	**1,13,07,99**	..	**1,13,07,99**	**14,39,21**	**10,63,78**	**3,75,43**	**3·3**	...	**4,39,35**	...	**63,92**
Non-Commercial (Strategic) (North Western and Aden Railways).	1927-28	32,41,77	...	32,41,77	1,60,40	1,94,67	—34,27	—1·3	...	1,34,03	1,68,30	...
	1928-29	33,10,29	..	33,10,29	(c)1,66,65	(c)1,98,60	(c)—31,95	—0·9	...	1,41,82	1,73,77	...
	1929-30	**33,38,72**	...	**33,38,72**	(b)**1,58,81**	(b)**2,08,82**	(b)—**50,01**	**—1·5**	...	**1,40,09**	...	**1,90,10**

† Includes Capital provided by the Palanpur Durbar.

‡ Includes payments to Durbars—

	1927-28.	1928-29.	1929-30.
Jaipur Durbar	7,21	7,65	7,79
Limbdi „	21	6	7
Palanpur „	18	21	21
Includes payments to Mysore Durbar	21,67	25,07	22,85
„ „ Travancore „	1,86	19	43

(a) Represent figures on account of subsidized Companies, etc.

(d) Figures of Capital at charge of 1928-29 and 1929-30 include sterling liabilities involved in the purchase of Railways converted at 1s. 6d. to the rupee and those of 1927-28 include sterling liabilities converted at 1s. 4d. to the rupee.

§ Represents payment of surplus profits of the Burma Railways for the year 1928-29 which could not be paid in that year as final settlement was not arrived at between the Government of India and the Burma Railways.

‖ Includes capital expenditure on Tinnevelly Quillon (Indian State Section).

¶ Includes 5·27 representing the outlay on the Suramangalam-Salem Railway and Rs. 69·30 on Tanjore District Board Railway brought on without financial adjustment.

(c) Includes Aden Railway:—
Column 6 excludes 96 for Aden Railway (strategic portion).
„ 7 „ 96 „ „
Net receipt for Aden strategic is "*Nil.*"

(b) Includes Aden Railway:—
Column 6 . . . 33
„ 7 . . . 76
„ 8 . . . —43

30. Analysis of Earnings.—The total earnings of all Indian railways, including those with which the Government of India is not directly concerned, amounted to Rs. 116·08 crores, of which Rs. 68·83 crores or 59·3 per cent. were from goods traffic, Rs. 38·58 crores or 33·2 per cent. from passenger traffic and Rs. 8·67 crores or 7·5 per cent. from parcels, luggage and miscellaneous earnings.

31. *Passenger earnings.*—Passenger earnings showed an increase of approximately one per cent. from Rs. 38·24 to 38·58 crores. The following table shows the numbers of and earnings from passengers separately for each class for the 4 years previous to the War and for the 4 latest years. Graphs are also inserted showing the progressive increases in the numbers of passengers carried and of passenger miles by classes from the beginning of 1923-24:—

Year.	Number of passengers carried (in thousands).					Earnings from passengers (in thousands of rupees).				
	1st Class.	2nd Class.	Inter. Class.	3rd Class.	Season and Vendor's tickets.	1st Class.	2nd Class.	Inter-Class.	3rd Class.	Season and Vendor's tickets.
1910	685	2,784	10,702	315,839	24,341	58,82	77,23	94,99	14,65,16	15,85
1911	703	2,947	11,409	331,055	25,687	66,38	83,83	1,08,88	15,73,15	16,85
1912	700	3,030	10,508	356,789	26,810	62,90	83,31	91,37	17,01,35	17,55
1913-14	715	3,253	12,000	390,412	30,114	68,94	88,70	1,03,48	18,37,03	19,36
1926-27	1,012	10,006	14,945	578,409	†	1,17,78	1,88,31	1,61,79	33,44,63	†
1927-28	980	9,963	17,351	594,821	†	1,13,71	1,95,67	1,69,33	34,39,39	†
1928-29	912	9,585	17,870	591,679	†	1,12,25	1,91,89	1,66,43	33,53,56	†
1929-30	**804**	**9,125**	**17,900**	**606,468**	†	**1,04,45**	**1,83,56**	**1,58,96**	**34,11,36**	†

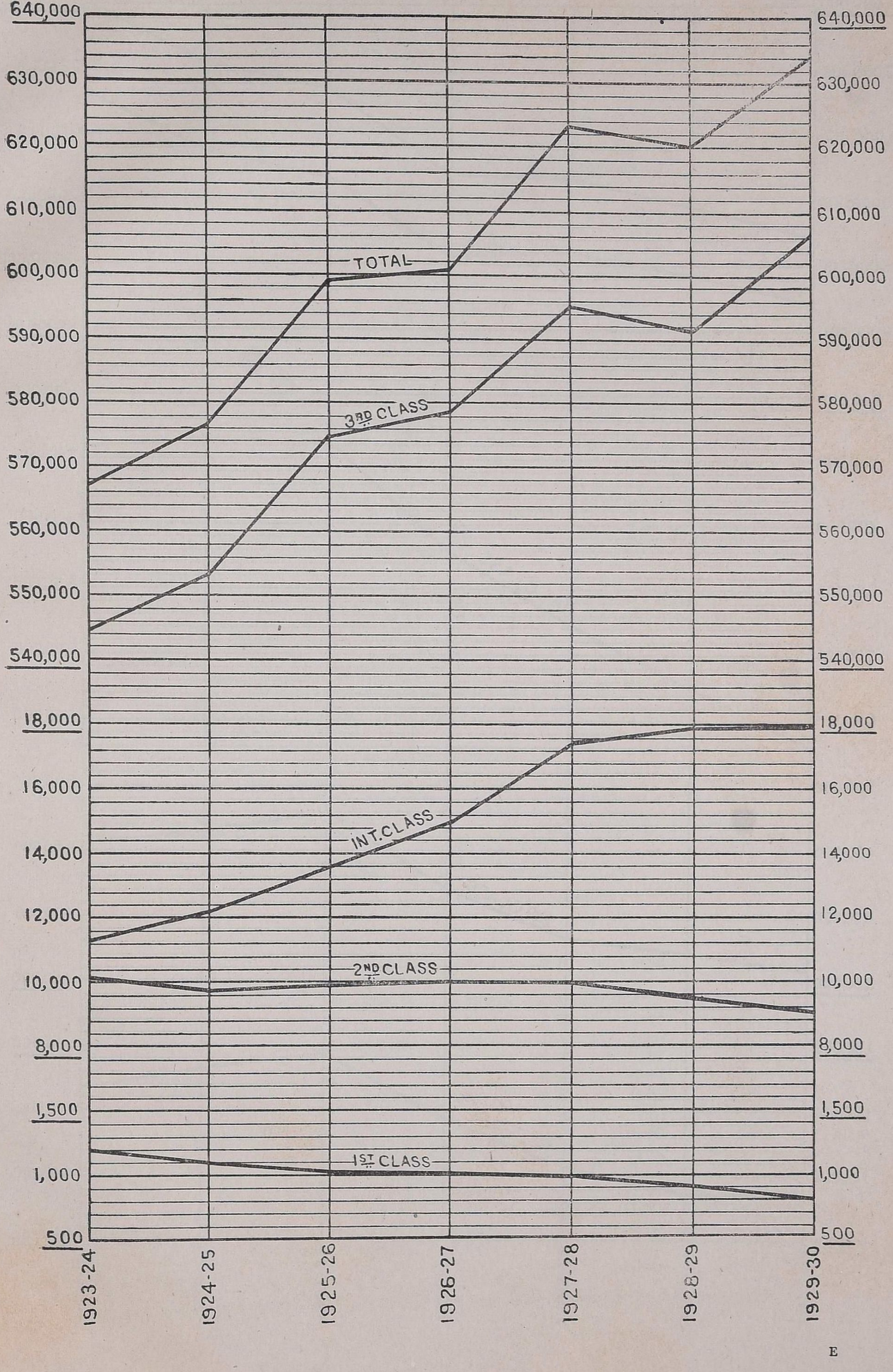
† The number of season and vendor's tickets and their earnings included under the respective classes; the former at the rate of 50 single journeys per month.

NOTE.—In pre-war reports the sum of the numbers of passengers carried on each separate railway was shown as the total number of passengers carried on all railways. Passengers travelling over two or more railways were thus counted as two or more passengers. The actual number of passengers carried on all railways is in fact the same as the number of passengers originating and this figure has been adopted for 'number of passengers carried' in the reports from 1923-24 onwards. As the number of passengers originating is not available prior to 1923-24 the figures of pre-war years have been modified.

32. During 1929-30, 15 million more passengers were carried on Class I Railways than in 1928-29 and passenger earnings increased by Rs. 37 lakhs. The following statement shows how these increases were distributed over the various railway administrations:—

Name of Railway.	Variations in the No. of passengers carried as compared with 1928-29.	Variations in Earning as compared with 1928-29.
Assam Bengal	+ 820,300	- 60,000
Bengal and North-Western	+ 2,762,100	+ 9,39,000
Bengal Nagpur	+ 1,689,900	+ 4,22,000
Bombay, Baroda and Central India	+ 2,075,000	- 10,14,000
Burma	- 2,250,300	- 11,70,000
Eastern Bengal	+ 1,796,700	- 94,000
East Indian	+ 520,600	+ 25,07,000
Great Indian Peninsula	+ 923,800	+ 4,23,000
Jodhpur	- 28,500	- 65,000
Madras and Southern Mahratta	+ 2,980,300	+ 13,49,000
His Exalted Highness the Nizam's Guaranteed State	+ 396,700	+ 4,99,000
North Western	- 3,976,600	- 26,96,000
Rohilkund and Kumaon	- 264,200	- 1,10,000
South Indian	+ 7,654,600	+ 28,18,000
TOTAL	+ 15,100,400	+ 37,48,000

NUMBER OF PASSENGERS CARRIED ON
INDIAN RAILWAYS
(IN THOUSANDS)



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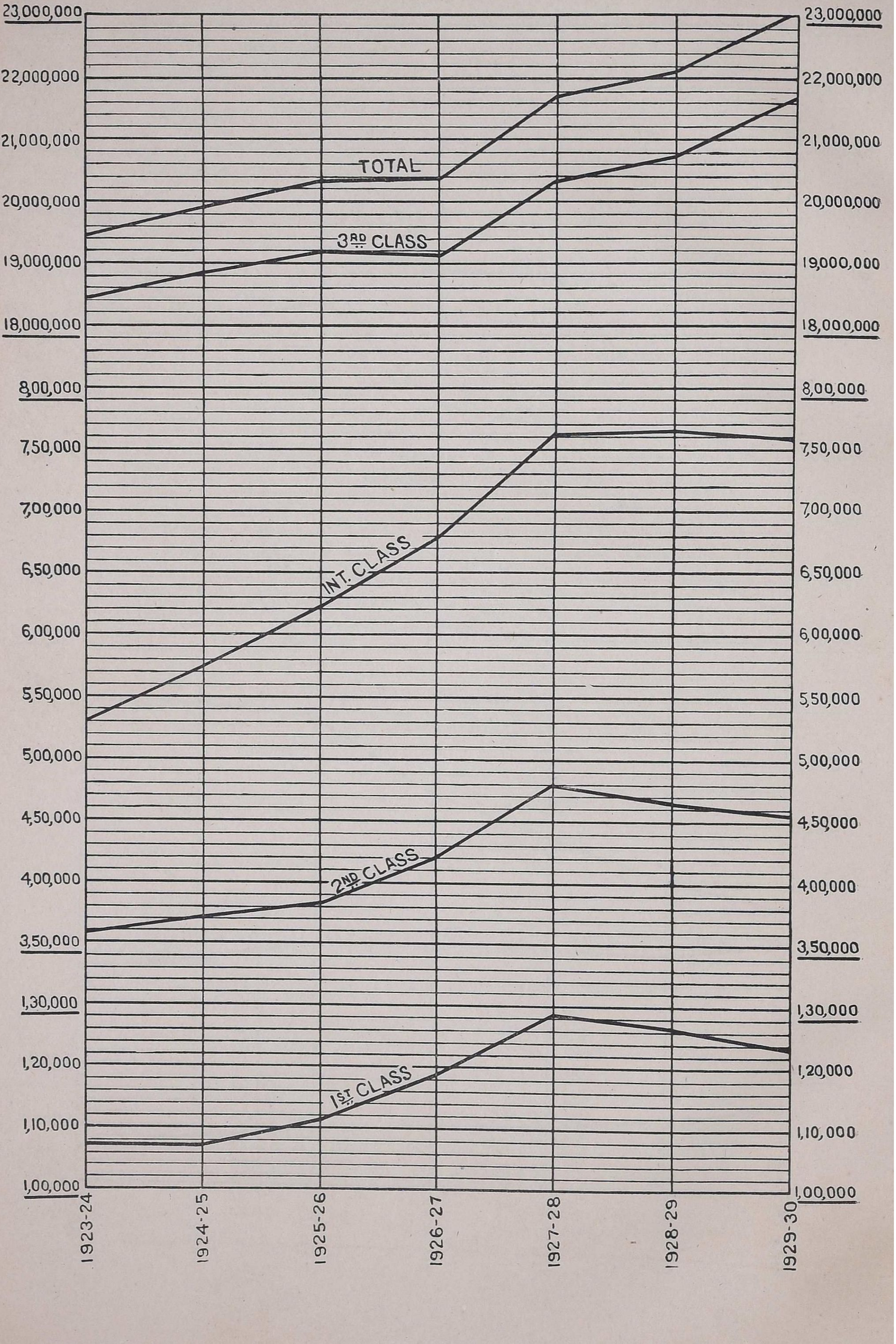
PASSENGER MILES
INDIAN RAILWAYS
(IN THOUSANDS)



33. Free allowance of luggage.—The following scale of free allowance of luggage applied till recently over almost every railway in India and has been in force for more than forty years :—

	Seers.
1st class	60
2nd class	30
Inter class	20
3rd class	15

At the instance of the Railway Board, the Indian Railway Conference Association considered the question of revising this scale and their recommendation for the following scale of free allowance was adopted on practically all railways, with effect from 15th December 1929 :—

	Seers.	
1st class	60	No change.
2nd class	40	
Inter class	30	
3rd class	25	

34. Passengers travelling without tickets.—An account was given in last year's report of the steps taken on different railways to prevent passengers from travelling without tickets. During the year under review no particular new measures were introduced but railways continued their efforts to combat the evil. The crew system of ticket checking which has been mentioned in previous reports was continued in various forms on the East Indian, Eastern Bengal, Great Indian Peninsula and South Indian Railways. At the end of the year the Railway Board decided to appoint a small committee to enquire into the crew system on the East Indian Railway and to report whether the expenditure was justified by its results. Comprehensive reports were also called for from the other three railways to enable the Railway Board to come to a final decision as to whether or not the crew system should be continued.

35. Goods earnings.—Earnings from goods traffic on all railways decreased by Rs. 2·33 crores chiefly under wheat, gram, pulse and other grains, rice, oilseeds and jute.

The tonnage of and earnings from the principal commodities on Class I Railways during the last two years are shown in the statement below. The only commodities which showed a considerable increase in earnings are cotton, provisions, kerosene oil and petrol.

Commodity.	1928-29.		1929-30.		Decrease — Increase + in Earnings (lakhs).
	No. of tons originating (in millions).	Rs. (in crores).	No. of tons originating (in millions).	Rs. (in crores).	
Decreases.					
Gram and Pulse and other grains.	3·37	4·80	**2·75**	**3·53**	—127
Rice	4·93	4·78	**4·55**	**4·17**	—61
Oil-seeds	3·01	4·53	**2·79**	**3·95**	—58
Wheat	1·85	2·43	**1·63**	**2·03**	—40
Jute, Raw	1·18	1·71	**1·04**	**1·47**	—24
Railway materials . .	8·31	1·09	**6·38**	**0·94**	—15
Live stock . . .	0·22	0·69	**0·20**	**0·63**	—6
Marble and stone . . .	3·59	1·03	**3·45**	**0·98**	—5
Fodder	0·94	0·66	**0·96**	**0·61**	—5
Materials and stores on Revenue account.	15·47	3·17	**15·94**	**3·12**	—5
Salt	1·49	2·00	**1·47**	**1·96**	—4
Gur, Jagree, Molasses . .	0·72	0·97	**0·70**	**0·94**	—3
Military stores . . .	0·37	0·41	**0·34**	**0·38**	—3
Wood, unwrought . . .	1·32	0·86	**1·35**	**0·85**	—1
Other commodities . .	9·69	11·47	**9·44**	**10·64**	—83

Commodity.	1928-29. No. of tons originating (in millions).	1928-29. Rs. (in crores).	1929-30. No. of tons originating (in millions).	1929-30. Rs. (in crores).	Decrease — Increase + in Earnings (lakhs).
Increases.					
Cotton raw and manufactured.	1·69	6·17	1·83	6·91	+74
Provisions	1·00	2·39	1·17	2·89	+50
Kerosene and petrol . .	1·06	2·10	1·18	2·46	+36
Metallic ores . . .	2·84	1·32	3·41	1·47	+15
Fuel for public and Foreign Railways.	20·10	10·15	21·46	10·22	+7
Tobacco	0·32	0·77	0·33	0·82	+5
Sugar . . .	0·84	1·99	0·82	2·03	+4
Iron and steel wrought . .	1·29	2·43	1·31	2·46	+3
Manures . . .	0·15	0·12	0·18	0·14	+2
Fruits and vegetables . .	1·24	1·08	1·28	1·08	...
TOTAL .	86·99	69·12	85·96	66·68	—2·44

36. Reduction in rates.—For goods traffic, substantial reductions, as indicated below, were made over the railways mentioned :—

(*a*) *Fresh fruit and vegetables.*—With effect from the 1st April 1929, the rates for fresh fruit and vegetables were reduced on the East Indian, North Western and Eastern Bengal Railways.

(*b*) *Forest produce.*—With effect from the 1st April 1929, the Eastern Bengal Railway reduced their rates on unwrought wood, charcoal, firewood and crushed bamboos; and the Great Indian Peninsula Railway on wrought and unwrought timber, bullies, rafters, firewood, grass and charcoal.

(*c*) The scale of rates for coal, coke and patent fuel carried for distances exceeding 400 miles which was as follows :—

	Per maund per mile.
	Pie.
For the first 200 miles	0·15
Plus, for 201-500 miles	0·07
Plus, for over 500 miles	0·06

was revised as follows with effect from 1st June 1929 :—

	Per maund per mile.
	Pie.
For the first 200 miles	0·15
Plus, for 201-400 miles	0·06
Plus, for over 400 miles	0·05

This revised scale was adopted over the Bengal Nagpur, Bengal and North-Western, Bikaner State, Bombay, Baroda and Central India, East Indian, Eastern Bengal, Great Indian Peninsula, Jodhpur, Madras and Southern Mahratta (North East Line only), North Western and Rohilkund and Kumaon Railways for public and Foreign Railway Loco. coal and over the Assam Bengal and Jorhat Provincial Railways for Foreign Railway Loco. coal only.

37. Stores Balances.—The table below compares the figures of stores balances since 1921-22 :—

(In thousands.)

Railways.	1921-22.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.
	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	Rs.	Rs.	**Rs.**
Assam Bengal	24,81	31,48	18,38	12,30	9,49	12,59	13,01	14,91	**18,04**
Bengal Nagpur	1,40,26	1,61,88	1,48,09	1,49,44	1,27,64	1,17,17	1,07,87	1,32,69	**1,36,28**
Bombay, Baroda and Central India.	2,76,83	2,72,43	2,33,25	1,77,39	1,62,48	1,46,28	1,67,17	1,62,35	**1,60,82**
Burma	66,62	84,85	98,71	84,62	75,00	44,82	59,41	61,25	**55,25**
East Indian (including Oudh and Rohilkhand).	3,92,50	4,39,19	4,10,66	3,14,19	2,81,46	2,48,17	2,98,92	3,14,89	**3,03,84**
Eastern Bengal	2,51,63	1,76,20	1,57,85	1,21,99	1,12,27	84,07	84,39	79,53	**77,21**
Great Indian Peninsula.	4,66,49	3,88,35	3,97,77	2,89,49	2,38,67	2,23,13	2,53,49	2,41,88	**2,62,01**
Madras and Southern Mahratta.	1,50,52	1,66,09	1,50,91	1,02,86	84,31	76,75	93,91	83,29	**82,60**
North Western	3,94,12	3,92,69	3,79,78	3,24,39	3,23,75	3,67,81	4,82,73	4,59,64	**4,40,34**
South Indian	1,14,45	1,38,66	99,02	77,04	1,13,30	1,06,60	1,23,76	1,14,51	**1,05,72**
Other Railways	41,13	46,96	63,50	54,94	40,08	41,46	48,15	44,57	**52,69**
TOTAL	23,19,36	22,98,78	21,57,92	17,08,65	15,68,45	14,68,85	17,32,81	17,09,51	**16,94,80**

38. In October 1929, the Railway Board deputed two officers to visit the railways having their headquarters at Calcutta, Bombay and Lahore to consult with them as to the possibilities of reducing the purchases of railway material during the subsequent year. These two officers at the same time made a cursory investigation into the position as regards surplus stores.

The Board subsequently deputed an officer on special duty to make a more detailed investigation into the question of surplus stores with a view to prevent further accumulation and to arrange, for the utilization of existing stocks by transfer, re-manufacture or in other ways.

The report has been submitted and action has already been taken on some of the recommendations.

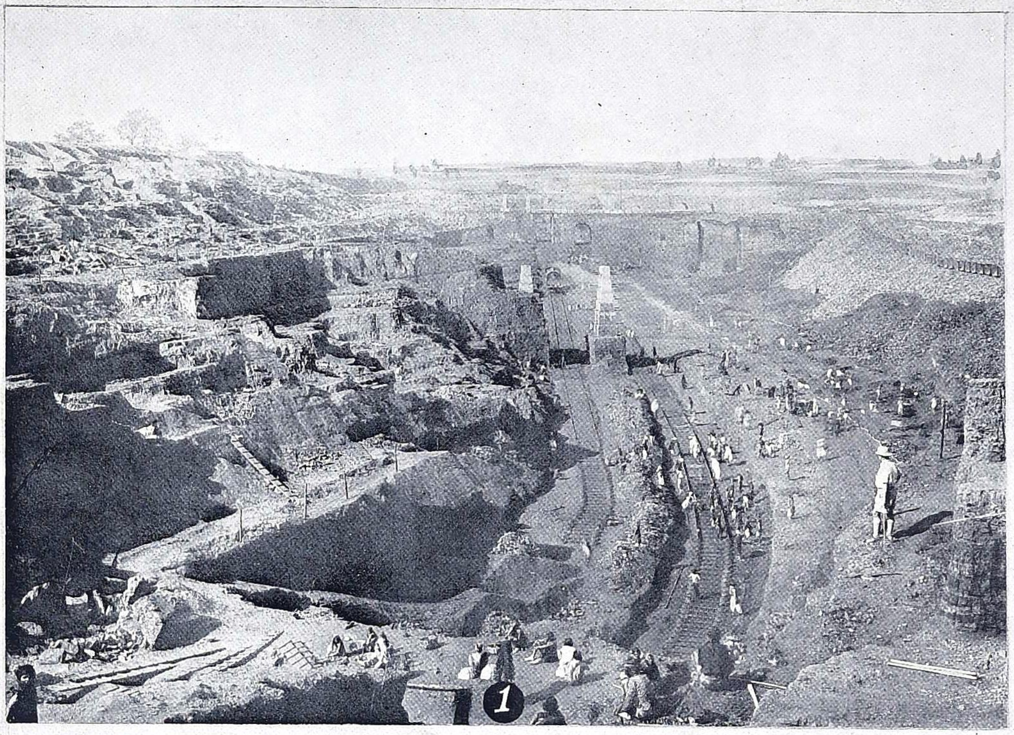
39. Compensation claims for goods.—The amount paid on account of compensation for goods lost or damaged has remained more or less the same in the last three years, the figure for 1929-30 being Rs. $9\frac{1}{4}$ lakhs which is the lowest figure yet attained. In previous reports attention has been drawn to the marked improvement under this head since the year 1922-23 when the amount of claims paid exceeded Rs. 120 lakhs. The table below shows the amounts paid by each Class I Railway in the last six years.

*Claims for goods lost or damaged paid by Class I Railways (excluding Jodhpur Railway) during 1924-25 to 1929-30.**

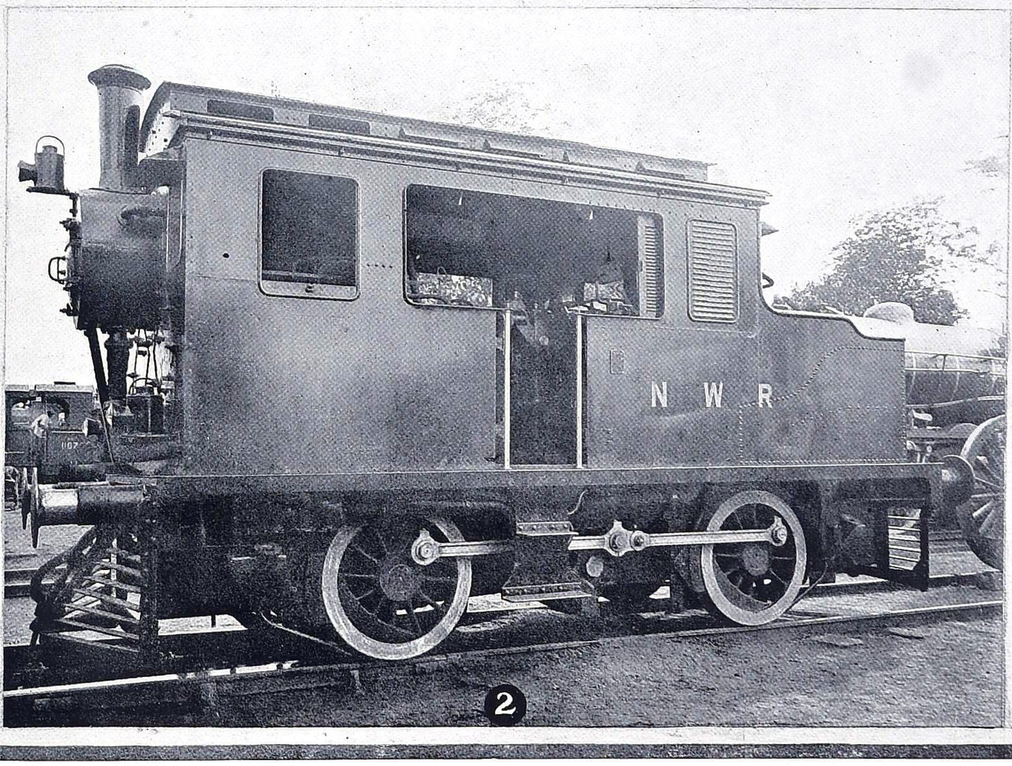
Railways.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.	1929-30.	Percentage to Goods Earnings.	
							1928-29.	1929-30.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Assam Bengal	17,587	21,841	20,979	18,006	20,973	19,096	0·18	0·17
Bengal and North-Western.	80,680	92,932	85,369	59,875	45,387	56,914	0·26	0·32
Bengal Nagpur	2,01,889	80,093	54,988	65,248	1,02,726	77,437	0·16	0·12
Bombay, Baroda and Central India.	6,03,064	4,40,465	2,60,213	1,57,447	1,21,175	1,07,749	0·16	0·15
Burma	33,662	30,982	41,295	42,791	34,696	18,828	0·11	0·06
Eastern Bengal	1,68,020	1,86,736	1,83,822	1,71,266	1,53,676	1,08,306	0·39	0·30
East Indian	30,61,451	11,73,008	3,82,219	2,36,368	2,27,600	1,75,501	0·17	0·14
Great Indian Peninsula.	6,63,609	3,41,130	1,92,400	1,18,333	1,45,133	1,11,392	0·14	0·12
Madras and Southern Mahratta.	85,548	91,018	84,859	80,517	95,330	1,28,478	0·15	0·23
His Exalted Highness the Nizam's Guaranteed State.	17,022	18,219	11,211	11,270	11,443	23,075	0·08	0·16
North Western	6,84,162	3,89,771	1,55,097	—36,383	99,446	78,321	0·09	0·08
Rohilkund and Kumaon.	21,860	17,088	4,318	7,347	7,204	5,775	0·21	0·17
South Indian	32,045	48,536	45,169	17,691	28,350	12,992	0·10	0·04
Total	56,70,499	29,31,819	15,21,939	9,49,776	10,93,139	9,23,864	0·16	0·14

*These figures exclude the amount of credits afforded to home line departments for the loss of their goods.

GREAT INDIAN PENINSULA RAILWAY.



NORTH WESTERN RAILWAY.



1. Kargali Colliery—Quarry. 2. Clayton locomotive.

CHAPTER III.

NEW CONSTRUCTION AND ENGINEERING WORKS.

40. Capital Expenditure.—At the end of March 1930 the total capital at charge on all railways, including those under construction, amounted to Rs. 856·13 crores of which Rs. 769·38 crores was Capital at charge on State-owned Railways inclusive of premia paid in the purchase of Companies' lines. The remainder Rs. 86·60 crores represented Capital raised by Indian States, Companies and District Boards.

The Capital at charge of State-owned Railways is composed as follows :—

	£
Liability and debt incurred in purchase of railways .	150,106,630
Less liability and debt cancelled by the operation of Annuities and Sinking Funds	– 29,265,885
Net amount outstanding	120,840,745*
	Rs. (omitting 000)
Direct expenditure by Government	6,08,86,60
The above figure converted at Rs. $13\frac{1}{3}$ = £1	1,61,11,50
Total .	7,69,98,10†

By far the greater portion of this amount, namely, Rs. 7,36,78,52,000 is Government Capital and only 1/22nd or Rs. 33,19,58,000 is owned by Companies. These figures include Rs. 33·39 crores on account of Capital expenditure to the end of March 1930 on strategic lines.

41. The total capital outlay on all railways during 1929-30 was Rs. 32·21 crores of which Rs. 30·18 crores were spent on State-owned Railways. The following statement shows how this outlay of Rs. 30·18 crores was distributed between open line works, rolling stock and new lines, similar figures being given for the previous four years and for **1913-14**.

Year.	Open Lines.			New lines.	Grand Total.
	Works including Stores and general charges.	Rolling-stock.	Total.		
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
1913-14	9·30	7·31	16·61	1·86	18·47
1925-26	9·44	5·80	15·24	4·01	19·25
1926-27	16·74	4·13	20·87	6·27	27·14
1927-28	17·21	5·37	22·58	9·86	32·44
1928-29	12·47	3·98	16·45	8·96	25·41
1929-30	**18·12**	**5·55**	**23·67**	**6·51**	**30·18**

*£118,265,745 converted at the rate of £1=Rs. $13\frac{1}{3}$ and £2,575,000 representing the Great Indian Peninsula Railway Company's share capital paid off during 1925-26 converted at the average rate of exchange.

†Includes Rs. 69,30,443 brought on without financial adjustment on account of capital expenditure on Tanjore District Board Railway taken over from the District Board.

42. The distribution of the capital outlay in 1929-30 over the different State-owned lines is shown in the summary below :—

Railways.	Open Lines.			New lines.	Grand Total.
	Works, etc.	Rolling-stock.	Total.		
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
Bengal Nagpur . . .	1·14	0·49	1·63	0·92	2·55
Bombay, Baroda and Central India	1·15	0·29	1·44	—0·05	1·39
Eastern Bengal . .	0·57	0·96	1·53	0·48	2·01
East Indian	1·57	0·75	2·32	1·40	3·72
Great Indian Peninsula . .	2·76	0·78	3·54	0·12	3·66
Madras and Southern Mahratta .	1·13	0·39	1·52	0·29	1·81
North Western	8·36	0·56	8·92	1·02	9·94
South Indian	0·57	0·53	1·10	0·88	1·98
Other Railways . . .	0·87	0·80	1·67	1·45	3·12
Total .	18·12	5·55	23·67	6·51	30·18

43. Lines opened during 1929-30.—812·07 miles of railways were opened to public traffic during the year and consisted of :—

326·50 miles on the 5′ 6″ gauge.

412·08 „ „ „ 3′ 3⅜″ „

73·49 „ „ „ 2′ 6″ and 2′ 0″ gauge

44. Details regarding the sections opened are given below :—

Name of line.	Gauge.	Mileage.	Owner.	Working agency.	Date of opening.
Raipur-Harishankar Road . .	5′ 6″	91·42	State	Bengal Nagpur Railway.	20th November 1929. 30th March 1930.
Parvatipuram-Jamedipeta . .	5′ 6″	19·75	State	Do.	31st March 1930.
Bijuri-Manendragarh . . .	5′ 6″	10·42	State	Do.	25th April 1929.
Boriavi-Vadtal	5′ 6″	3·71	State	Bombay, Baroda and Central India Railway.	18th April 1929.
Rajshahi-Chapai Nawabganj .	5′ 6″	31·46	State	Eastern Bengal Railway.	15th January 1930.
Chandpur-Muzzampur . .	5′ 6″	36·60	State	East Indian Railway.	5th January 1930.
Kasba Fatehabad-Bah . .	5′ 6″	21·00	State	Great Indian Peninsula Railway.	10th April 1929.
Coconada-Kotipalli . . .	5′ 6″	27·08	State	Madras and Southern Mahratta Railway.	1st November 1929.
Vikarabad-Bidar	5′ 6″	56·57	His Exalted Highness the Nizam.	His Exalted Highness the Nizam's Guaranteed State Railways.	14th January 1930.

Name of line.	Gauge.	Mileage.	Owner.	Working agency.	Date of opening.
Jessar-Dera Baba Nanak	5′ 6″	5·29		North Western Railway.	6th May 1929.
Salem-Mettur Dam	5′ 6″	23·20		South Indian Railway.	15th April 1929.
Netrakona-Mohanganj	3′ 3⅜″	10·95		Assam Bengal Railway.	1st April 1929.
Feni-Belonia	3′ 3⅜″	16·88		Do.	1st December 1929.
Shaistaganj-Balla	3′ 3⅜″	16·82		Do.	1st December 1929.
Chittagong-Nazirhat	3′ 3⅜″	22·97	State	Do.	1st December 1929. 17th March 1930.
Senchoa-Dhing Bazar	3′ 3⅜″	26·92		Do.	1st March 1930. 6th February 1930.
Natmauk-Nyaungdo	3′ 3⅜″	35·85		Burma Railways.	21st December 1929.
Myingyan-Paleik	3′ 3⅜″	68·86		Do.	5th October 1929. 13th January 1930.
Nyaunglebin-Madauk	3′ 3⅜″	11·06		Do.	15th August 1929.
Banmankhi-Behariganj	3′ 3⅜″	17·13		Eastern Bengal Railway.	1st August 1929.
Jalor-Ledarmer	3′ 3⅜″	32·69	Jodhpur State	Jodhpur Railway	15th February 1930. 1st March 1930. 15th March 1930.
Guntur-Macherla	3′ 3⅜″	79·83	State	Madras and Southern Mahratta Railway.	15th January 1930.
Parbhani-Purli	3′ 3⅜″	39·49	His Exalted Highness the Nizam.	His Exalted Highness the Nizam's Guaranteed State Railways.	16th October 1929. 15th December 1929.
Trichinopoly-Pudukottah	3′ 3⅜″	32·63	State	South Indian Railway.	17th April 1929.
Dungarda-Waghai	2′ 6″	1·97	Baroda Durbar	Gaekwar's Baroda State Railway.	2nd November 1929.
Zankhvav-Umerpada	2′ 6″	12·59			1st July 1929.
Parlakimedi-Varanasi	2′ 6″	15·75	Parlakimedi State	Bengal Nagpur Railway.	17th November 1929.
Jambusar-Kavi	2′ 6″	17·87	State	Bombay, Baroda and Central India Railway.	1st August 1929.
Samni-Dehej	2′ 6″	24·56			1st March 1930.
Kulasekarapatnam Fort-Manapad	2′ 0″	0·75	The East India Distilleries and Sugar Factory Limited.	The East India Distilleries and Sugar Factory Limited.	1st October 1929.

45. Lines under construction on 31st March 1930.—During the year under review sanction was accorded to the construction of new lines totalling 227·77 miles.

	Miles.
5′ 6″	93·00
3′ 3⅜″	115·77
2′ 6″	19·00

46. At the end of the financial year 1929-30 a total of 1,257·57 miles of new lines was under active construction distributed as follows :—

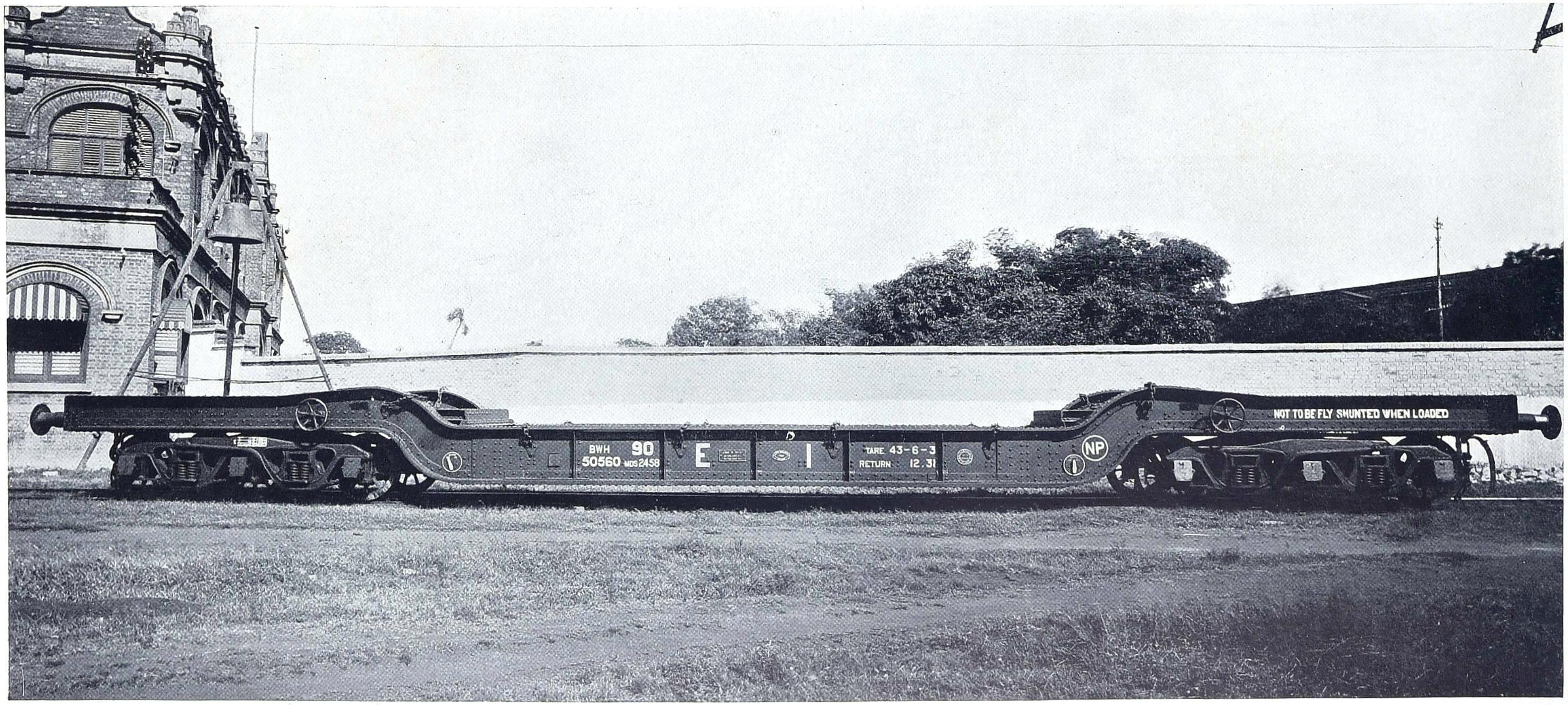
	Miles.
5′ 6″	730·77
3′ 3⅜″	457·51
2′ 6″ and 2′ 0″	69·29

47. The lines under construction are given in the table below which also shows the construction agencies and the progress reached :—

Name of line.	Gauge.	Mileage actually under construction.	Working agency.	Progress of work. Proportion completed.
*Birmitrapur-Gutitanagar	5′ 6″	7·23	Bengal-Nagpur Railway.	0·39 Work suspended till 1932.
Harishankar Road-Jamedipeta	5′ 6″	130·61	Bengal-Nagpur Railway.	0·90 on District No. 1. 0·60 " 2. 0·41 " 3. 0·99 " 4.
*Contai Road-Contai	5′ 6″	33·95	Bengal-Nagpur Railway.	0·00 Work suspended.
Vasad-Katana	5′ 6″	26·62	Bombay, Baroda and Central India Railway.	0·95
Kalukhali-Bhatiapara	5′ 6″	53·07	Eastern Bengal Railway.	0·20
Dacca-Aricha (Rajbari-Narayanganj).	5′ 6″	64·20	Eastern Bengal Railway.	0·00
Calcutta Chord (Dankuni Dum-Dum).	5′ 6″	10·53	East Indian Railway.	0·80
Lucknow-Zafarabad	5′ 6″	136·46	East Indian Railway.	0·60
Unao-Madhoganj	5′ 6″	47·93	East Indian Railway.	0·80
*Kartai-Kamasin	5′ 6″	58·66	Great Indian Peninsula Railway.	0·10 Construction suspended.
*Khamgaon-Chikli	5′ 6″	38·50	Great Indian Peninsula Railway.	0·01 do.
*Belapur-Sheogaon	5′ 6″	45·50	Great Indian Peninsula Railway.	0·35 do.
*Amraoti-Narkhed	5′ 6″	79·00	Great Indian Peninsula Railway.	0·04 do.
*Bhadrachalam Road-Ramaram	5′ 6″	1·99	His Exalted Highness the Nizam's Guaranteed State Railways.	..
*Qadian-Beas	5′ 6″	29·54	North Western Railway.	0·33 Work suspended.
Mahrabpur-Padidan	5′ 6″	43·63	North Western Railway.	0·92
Tharushah-Sakrand	5′ 6″	65·73	North Western Railway.	0·07
Nawabshah-Tando Adam	5′ 6″	54·31	North Western Railway.	0·11
*Risalewala-Chananwala	5′ 6″	109·84	North Western Railway.	0·07 on Risalewala-Tandlianwala. 0·01 on Tandlianwala-Chananwala.
Chiniot-Chhinikhichi	5′ 6″	3·43	North Western Railway.	0·50
Shahpur City-Khushab	5′ 6″	6·00	North Western Railway.	0·70
Fort Abbas-Rohatwali Hotwala	5′ 6″	88·25	North Western Railway.	0·16 on Fort Abbas to mile 44. 0·10 on mile 44 to Hotwala.
Dhing Bazar-Mairabari	3′ 3⅜″	3·33	Assam-Bengal Railway.	0·98
Sholashahar (Chittagong)-Dohazari	3′ 3⅜″	25·00	Assam-Bengal Railway.	0·56
Mashrak-Thawe	3′ 3⅜″	39·32	Bengal and North-Western Railway.	0·60
*Halvad-Malia	3′ 3⅜″	26·00	Bombay, Baroda and Central India Railway.	0·60 Construction not started.
*Khalipur-Khakhal	3′ 3⅜″	17·22	Bombay, Baroda and Central India Railway.	Work held in abeyance.
*Wagrod-Khareda	3′ 3⅜″	12·44	Bombay, Baroda and Central India Railway.	Do.
*Vijapur-Ransipur	3′ 3⅜″	14·01	Bombay, Baroda and Central India Railway.	Do.
Taungdwingyi-Patanago	3′ 3⅜″	41·00	Burma Railways	0·40
Nyaungdo-Kyaukpadaung	3′ 3⅜″	11·25	Burma Railways	0·80
*Trans-Irrawaddy section of Minbu and Pakokku District Railways (Malun to end.)	3′ 3⅜″	270·87	Burma Railways	0·01

* On these lines either construction has not been started or work has been temporarily held in abeyance.

EAST INDIAN RAILWAY.



New high capacity well wagon—135 tons gross load.

Name of line.	Gauge.	Mileage actually under construction.	Working agency.	Progress of work. Proportion completed.
*Tangla-Belsiri	3′ 3⅜″	52·50	Eastern Bengal Railway.	0·01
*Marwar-Sanderao	3′ 3⅜″	77·83	Jodhpur Railway	0·46 on Marwar junction to Jujawar. 0·13 on Jujawar to Desure. Work suspended.
Ledarmer-Bhinmal	3′ 3⅜″	6·06	Jodhpur Railway	0·65
*Phalodi-Pokaran	3′ 3⅜″	37·00	Jodhpur Railway	0·00
*Bilara-Jaitarn	3′ 3⅜″	15·38	Jodhpur Railway	0·00
Pollachi-Palghat	3′ 3⅜″	33·45	South Indian Railway.	0·30
Salem-Vriddhachalam	3′ 3⅜″	82·53	South Indian Railway.	0·45
Pudukkottai-Manamadura	3′ 3⅜″	59·95	South Indian Railway.	0·90
*Trivandrum-Thambanur	3′ 3⅜″	3·43	South Indian Railway.	0·00 Construction not started.
Bhadran-Sadulpur	3′ 3⅜″	37·12	Bikaner Durbar	0·32
*Sidsar-Patan	3′ 3⅜″	7·85	Gondal	Worked held in abeyance.
*Khambaliya-Saliya	3′ 3⅜″	8·96	Jamnagar-Dwarka	0·00
*Prachi Road-Jamwala	3′ 3⅜″	7·50	Junagad-Durbar	0·37
*Jamwala-Una	3′ 3⅜″	22·08	Junagad-Durbar	1·00
*Talala-Dhari	3′ 3⅜″	47·27	Junagad-Durbar	0·00
*Shimoga Town-Arsalu	3′ 3⅜″	25·16	Mysore	0·80
*Chamrajanagar-Hardanhali	3′ 3⅜″	4·83	Mysore	0·05 on Nanjangud-Hardanhali section.
Mauli-Kambli	3′ 3⅜″	66·00	Mewar	0·85 on Mauli Kankroli section. 0·10 on Kankroli-Kambli section.
*Kambli-Sursinghjika Gudha	3′ 3⅜″	9·00	Mewar	..
Varanashi-Gunnupur	2′ 6″	15·63	Parlakimedi State	0·64
*Devgad Baria-Limbdia	2′ 6″	19·00	Baria Durbar	0·00
Dharwa-Pusad	2′ 6″	42·80	Great Indian Peninsula Railway.	0·35
*Mahuva-Anaval	2′ 6″	17·91	Baroda State	0·00
*Umerpada-Bardipada	2′ 6″	9·98	Baroda State	0·00
*Navsari-Kamrej	2′ 6″	26·25	Baroda State	0·00
*Barout-Murat	2′ 6″	30·00	Shahdara (Delhi) Saharanpur Light Railway.	0·00
Warsamedi-Bachau	2′ 6″	19·86	Cutch State	0·95
*Dholpur-Rajkhera	2′ 6″	22·34	Dholpur State	0·16 Construction suspended.
*Tirupati-Tiruchanur	2′ 0″	3·00	Tirupati-Tiruchanur Railway Company.	..

*On these lines either construction has not been started or work has been temporarily held in abeyance.

48. Lines Opened.—Of the lines opened during the year the following may be specially mentioned :—

Kangra Valley Railway.—The construction of this railway which was opened for all classes of traffic on the 1st April 1929 has been carried out by the agency of the North Western Railway which administration also works the line. This railway is a 2′ 6″ gauge extension from the broad gauge terminal at Pathankot and traverses the wide and fertile tract known as the Kangra Valley. The line shortens the journey to the hill station of Dharamsala and is required for the transport of machinery and stores for the Uhl Hydro Electric Scheme. It also offers easy access to the important pilgrim centres of Baij Nath and Jawala Mukhi.

Kila Saifulla-Fort Sandeman Section.—This section has been constructed and was opened on 15th July 1929. It is being worked by the agency of the North Western Railway. It forms the final link of the Zhob Valley railway which starts at Khanai and terminates at Fort Sandeman. The country traversed is cultivated in patches and forms one of the few comparatively fertile valleys in Baluchistan.

Bijuri-Manendragarh Section.—The first section of the Central India Coalfields Railway from Annupur, a station on the Katni branch of the Bengal Nagpur Railway to Bijuri, 29 miles to the east, was opened for public traffic on 7th July 1928 and an extension of 10½ miles to Manendragarh to serve collieries in the south west corner of the Korea State was opened in April 1929.

Guntur-Macherla Railway.—This metre gauge line which is 80 miles long connects Guntur, a station on the metre gauge section of the Madras and Southern Mahratta Railway, with Macherla a town of importance in the taluk of the Guntur district, touching most of the important villages *en route*. It opens up new country where the soil is suitable for growing tobacco, ground nuts, chillies and cotton. The line was opened on 15th January 1930.

Trichinopoly Pudukkottai Section.—This section connecting Pudukkottai, the capital of a state of that name, with the main line forms part of the Trichinopoly-Manamadura Railway, which when completed will shorten the distance between Madras and Dhanuskodi by 32 miles in addition to the 40 miles by which the construction of the Villupuram-Trichinopoly Chord line has already shortened it. It was opened for traffic on 17th April 1929.

Myingyan-Natogyi-Paleik Railway.—This line 68·86 miles in length was opened on 13th January 1930 and gives Myingyan-Natogyi and Myotha (important trade centres) direct communication with Mandalay and completes the loop Thazi, Myingyan, Paleik; the main line section Thazi-Paleik forming the chord.

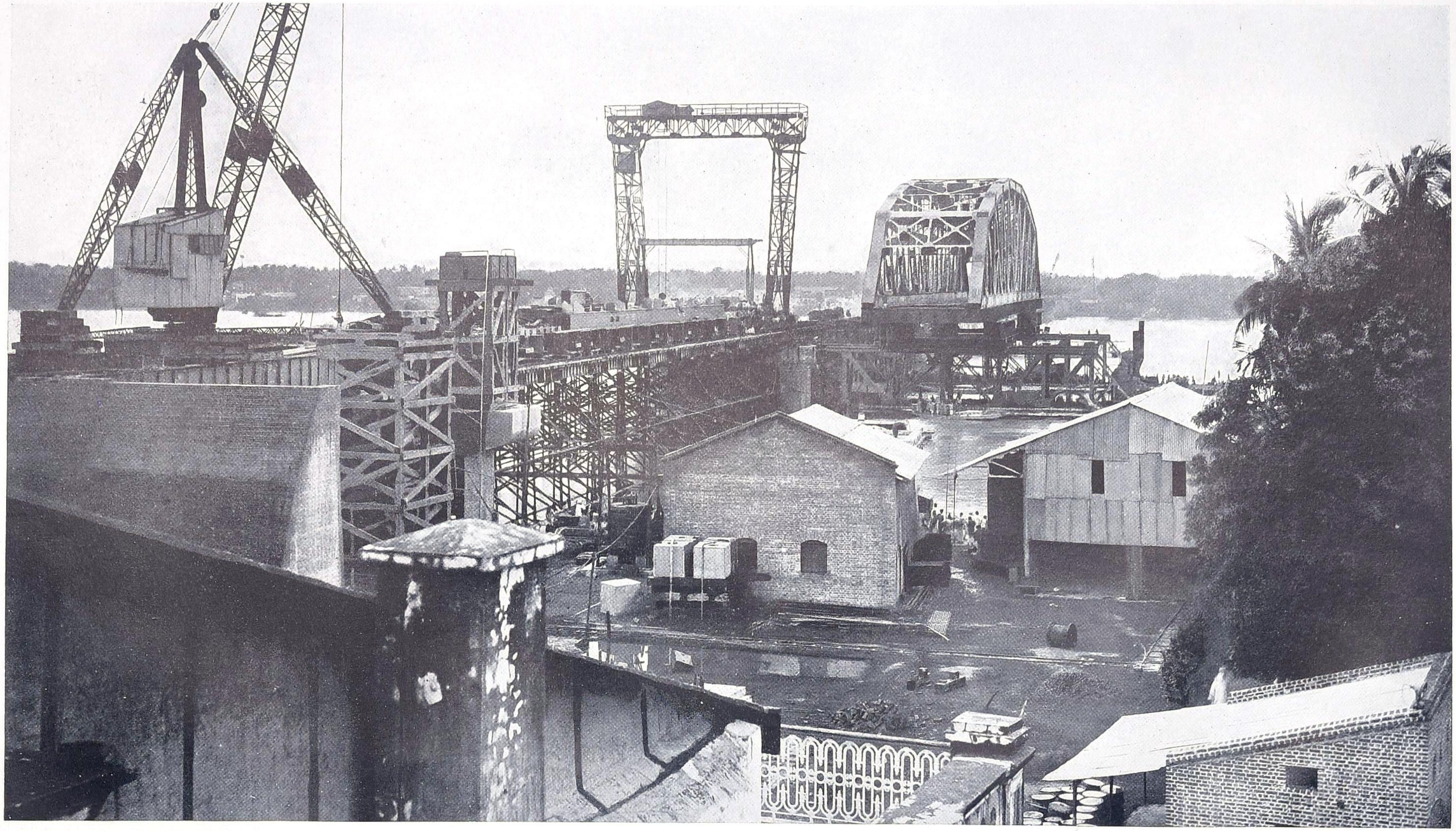
Natmauk-Nyaungdo Section.—This is the second section of the Taungdwingyi-Kyaukpadaung Railway to be opened for public traffic (21st December 1929). There remains the section Nyaungdo-Kyaukpadaung, 10·75 miles, still under construction, which is expected to be completed after the monsoon of 1930.

Nyaunglebin-Madauk Branch.—This branch line 11·06 miles in length which was opened on 15th August 1929 starts from Nyaunglebin station on the Rangoon Mandalay main line and runs east through Payunmyaung to Madauk on the Sittang river. Madauk has a considerable trade with the important township Shwgyin on the opposite side of the river with which it is connected by ferry services. This traffic together with the timber traffic from Madauk will be given a convenient outlet to the main line.

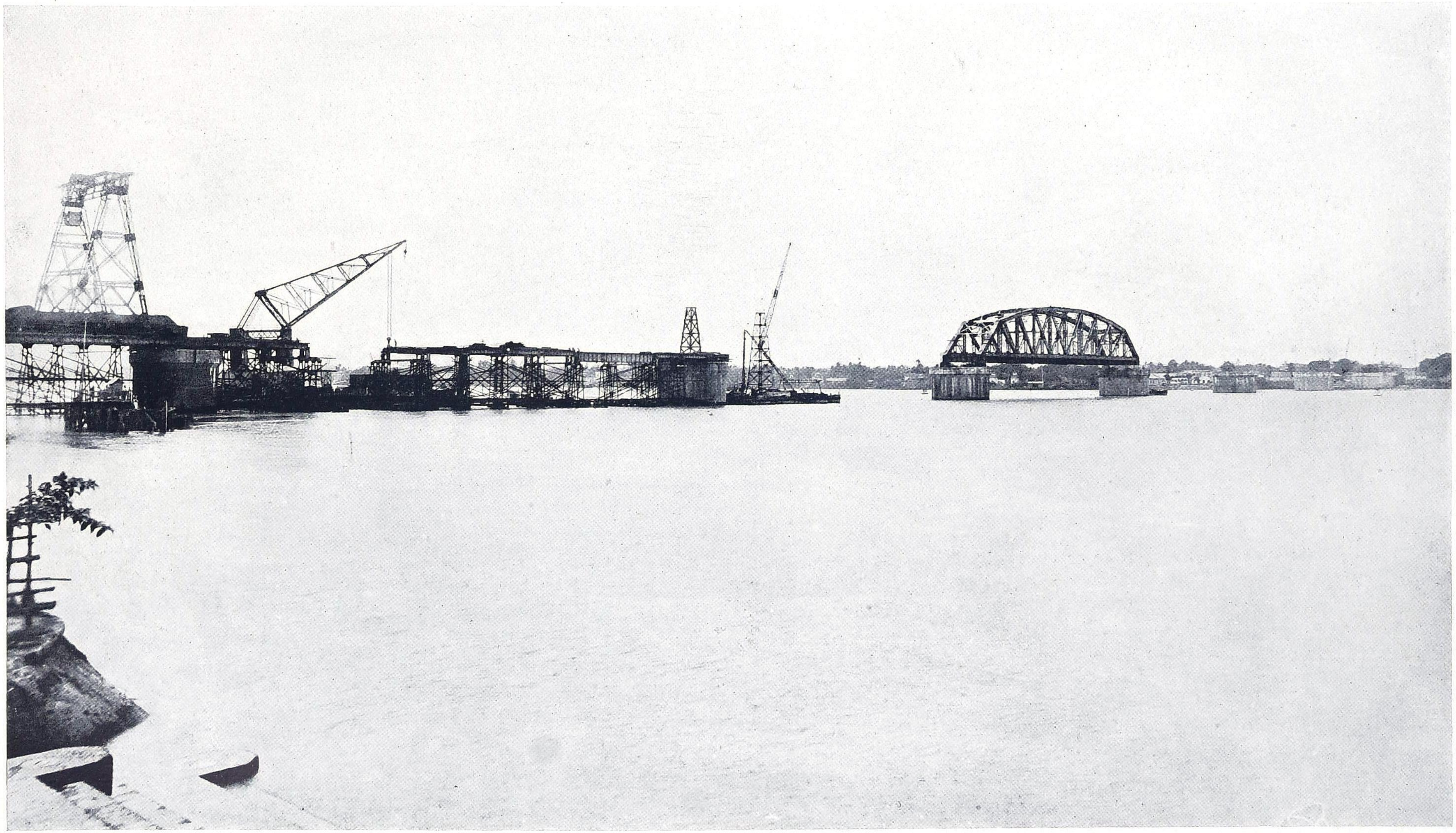
49. **Lines under construction.**—The following is a brief account of the more important lines sanctioned or under construction during the year which have not been mentioned in previous reports.

Fort Abbas Rohatwali-Hotwala section of the Bahawalpur Cholistan Railway.—Sanction to the construction of this line on the North Western Railway was accorded at an estimated cost of Rs. 65,09,909 in December 1929. The length of the line is 88·26 miles and the gauge 5′ 6″. It is expected to be opened for public traffic in March 1931. This line is in continuation of the existing Bahawalnagar Fort Abbas Railway. When finally completed it will run to Khanpur with a chord from Rohatwali to Hotwala. The project will be financed by the Bahawalpur Durbar from the Sutlej Valley Project Loan Fund. The line is being constructed and will be worked by the North Western Railway. It passes through land which at present is a desert but which is to be irrigated by the perrenial canal of the Sutlej Valley Project. It has no special features being similar to other lines in the plains of the Punjab.

Chiniot-Khushab Railway.—The Chiniot-Khushab Railway forms a part of the Chak Jhumra-Khushab Chord line on the North Western Railway which was described in the Railway Board's Report for 1926-27. The line



Bally Bridge—Floating first span into position.



Bally Bridge—First span in position.

is 53·53 miles in length out of which 44·10 miles have been opened for public traffic in two sections in January and March 1929. The remainder involving the construction of two large bridges over the Chenab and Jhelum rivers is expected to be opened in June 1931.

Sind Left Bank Feeders.—This line on the North Western Railway was mentioned in the Railway Board's report for 1928-29. The loop from Mehrabpur to Pad Idan, a distance of 43·63 miles, was opened for public traffic in May 1930. The second loop from Nawabshah to Tando Adam, 54·31 miles in length, is expected to be opened by the end of 1931.

Tangla-Belsiri-Rangapara Railway.—The construction by the Eastern Bengal Railway administration of a metre gauge line 52½ miles in length from Tangla *viâ* Belsiri to Rangapara was sanctioned during the year under review. The line will serve the country lying between the Brahmaputra River and the outer ranges of the Himalayas, the full development of which has been retarded for want of railway communication. At present communications in this area are so poor that, during the monsoon, great difficulty is experienced in maintaining a proper food supply for the population. The line will provide an outlet for the produce from the large areas of Government reserved forests and from a number of tea gardens. The country is also suitable for the production of sugar, jute, and rice. It is anticipated that the construction of the railway will give the necessary impetus for the rapid development of the areas thrown open to settlement by immigrants from the overpopulated areas around Dacca and Mymensingh.

Raipur-Vizianagram Railway.—The prospects of the Raipur-Vizianagram Railway and of the Port of Vizagapatam are interdependent as neither can attain the success of which it is capable without the other. The Vizianagram-Parvatipuram section, 49 miles in length, was the first to be taken in hand and was opened for traffic in April 1909. Lack of funds prevented the work being then proceeded with beyond Parvatipuram. It was, however, recognised in 1924 that the harbour works should be carried on simultaneously with the construction of the whole railway in order that the best financial results should be obtained and the construction of the Raipur-Parvatipuram section, 241·78 miles in length, was sanctioned by the Secretary of State in March 1925 and has since been in progress. The following parts of this section were opened for traffic during the year under review :—

(*i*) Parvatipuram-Jemadipeta (19·75 miles).
(*ii*) Raipur-Jhonk (65·87 miles).
(*iii*) Jhonk-Harishankar Road (25·55 miles).

Salem-Attur-Vriddhachalam Railway.—Progress was maintained by the South Indian Railway on the construction of the Salem-Vriddhachalam Railway, sanction to which was mentioned in the report for 1927-28. Practically half the total work was completed by the end of the year and it is expected to open the railway for traffic by about June 1931.

Calcutta Chord Railway.—For the reasons given in the report for 1926-27 the progress in the construction of this line has been slow, and it is now expected that it will be opened for traffic towards the end of 1931 or early in 1932.

Work on the bridge over the Hooghly made satisfactory progress during the year under review. Practically all well sinking and construction of piers and abutments was completed by 31st March 1930, while considerable progress in the fabrication and erection of girders was also made, though no one actual span was completed.

Lucknow-Sultanpur-Zafarabad.—As stated in the report for the year 1927-28, the construction of the Lucknow-Sultanpur-Zafarabad Railway was sanctioned in August 1927. It was thereafter decided to make certain minor alterations in the alignment. With these the line will start from Utraitia station on the Moghal Sarai-Lucknow chord section and passing through Sultanpur station on the Allahabad-Fyzabad branch will join the

Fyzabad loop at Zafarabad. Construction, which was started early in October 1928, is proceeding and it is hoped that the line will be ready for opening in October 1931.

Bilara to Jaitarn.—The construction of this branch, a length of 15·38 miles on the 3′ 3⅜″ gauge, was sanctioned in November 1929 at an estimated cost of Rs. 2,98,491. The line lies entirely in Jodhpur territory and its object is the development of grass farms of the State Military Department in the vicinity of Jaitarn. The line is also intended to serve local purposes and to facilitate the administrative work of the State.

The line has been financed, is being constructed and will be worked by the Jodhpur Durbar as part of the Jodhpur Railway system. The Government of India have no financial interest in this Railway.

Piplod-Devgad Baria Railway to Limbdia.—The construction of this extension of the Piplod Devgad Baria Railway was sanctioned at an estimated cost of Rs. 13,26,880 in November 1929. This line which is an extension of the feeder to the main line of the Bombay, Baroda and Central India Railway, lies entirely in the Baria State territory and its object is the development of State forests. The line is financed and is being constructed by the Baria Durbar and after construction the Durbar is prepared to hand it over for working to the Bombay, Baroda and Central India Railway Company which manages the existing line from Piplod to Devgad Baria provided that the Railway Company are agreeable to work it on reasonable terms. The Government of India have no financial interest in the Railway.

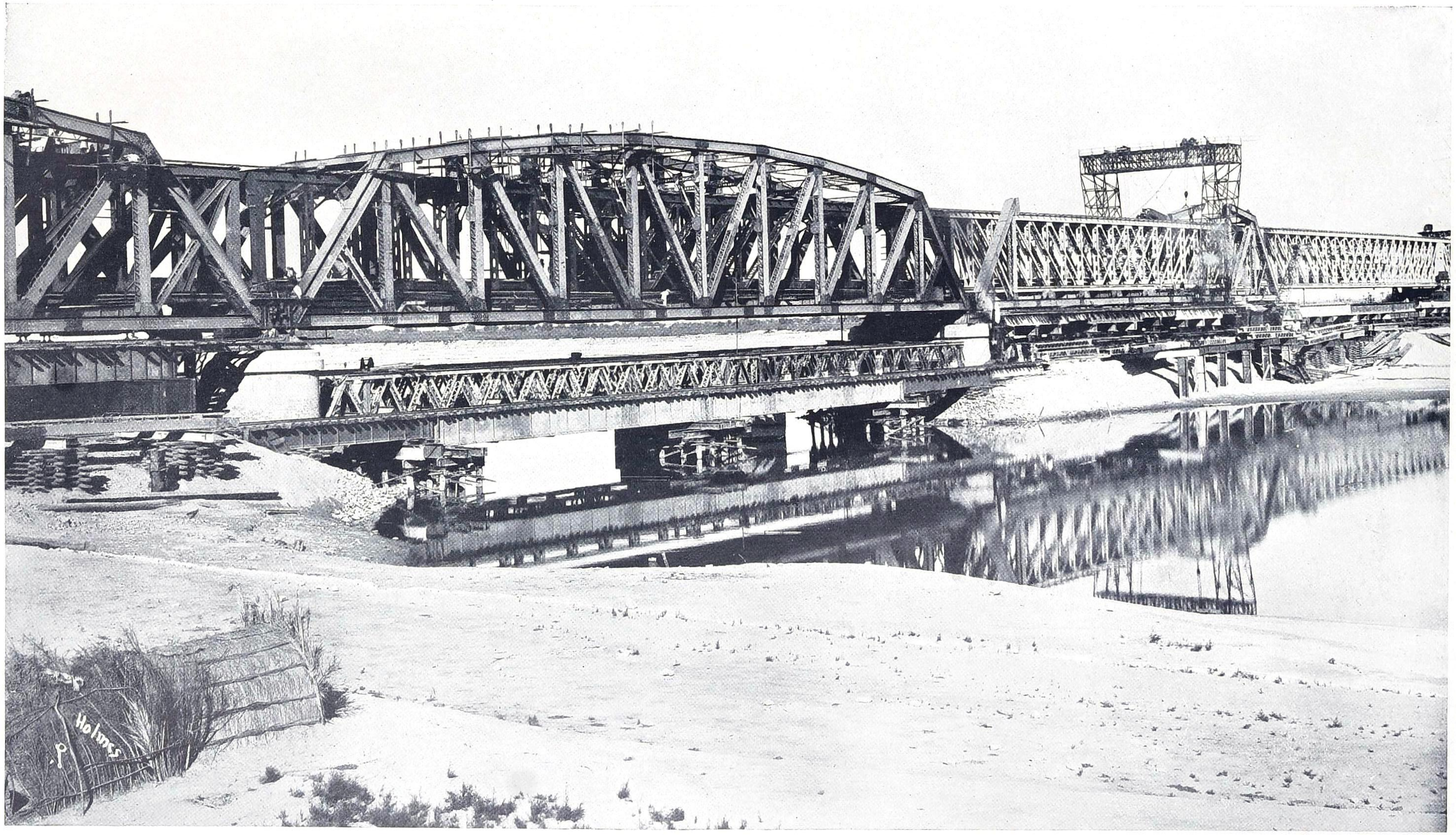
Talala-Visavadar-Dhari Railway.—The construction of this branch in two sections, *viz.*, Talala-Visavadar and Visavadar-Dhari, a total length of 47·27 miles, on the 3′ 3⅜″ gauge was sanctioned in October 1929, at an estimated cost of Rs. 37,93,560. The line traverses Baroda territory and Lughia and Jetpur taluqas, the section from Talala to Visavadar lying entirely in Junagad State. The entire line has been financed and is being constructed by the Junagad Durbar and the Government of India have no financial interest in it.

50. Important new works.—*Electrification Works, Great Indian Peninsula Railway.*—The main line electrification was completed as far as Poona, the section from Kalyan to Poona being officially opened by His Excellency the Governor of Bombay on 5th November 1929. The section from Kalyan to Igatpuri has nearly been completed.

The main power house has been completed and work on the evaporator house has recently been commenced.

Madras Hydro-Electric Schemes.—The Railway Board have during the year received the views of their Consulting Electrical Engineers and after examination came to the conclusion that the utilisation of power by electric traction from the Pykara Hydro-Electric scheme would not be a paying proposition and that there was no likelihood of any main line railway electrification being justified on the South Indian Railway within the next 10 years. The Madras Government have been informed that no undertaking could be given that the South Indian Railway electrification schemes would require to draw energy from the Pykara Hydro-Electric installation. The electrification of the Nilgiri Mountain Railway is still under consideration.

Vizagapatam Harbour.—Good progress was made on the Vizagapatam Harbour construction during the year. The suction dredger "Vizagapatam" worked in the turning basin and at the entrance of the channel into the turning basin. The dredging of the whole of this area was completed to a depth of 30 feet below low water and that of a portion in the middle of the turning basin to a depth of 40 feet below low water. The dipper dredger was employed in dredging hard material and breaking rock in the entrance channel. The "Mudlark" and 3 shore cranes dredged along the quay wall. The drag line excavator started work on the 7th November 1929 and the total amount of excavation was satisfactory. The quay wall for the three berths has been completed. Transit sheds Nos. II and III are



Empress Bridge at Adamwahan. Renewing 8 single track spans with double track spans.

in hand. The dry dock was completed by the end of the year. All subordinates' quarters have been completed. The railway lines behind the transit shed have been laid and are in use.

In connection with the anti-malarial works the usual protective measures were taken in hand. These works were inspected on the 4th December 1929 by the delegates of the League of Nations on tour in India, who expressed their satisfaction with the manner in which they are being carried out.

A revised development plan of the harbour has been approved by the Government of India and the work on the scheme is being vigorously pushed on. It is expected that the harbour will be ready to berth ships by the end of 1932.

Lillooah Workshops Remodelling (*East Indian Railway*).—The necessity for providing an up-to-date body building shop has arisen due to the fact that the State Railways Workshop Committee recommended that the construction of lower class stock required by all state railways should be concentrated at Lillooah. The existing carriage construction shop is unsuitable for modern production methods. To enable carriage building to be carried out with economy and speed it is necessary to have modern appliances, particularly overhead mechanical lifting facilities. The proposed shop will be provided with the necessary modern appliances and has been so designed that it will be possible to lay down four lines of underframes simultaneously to enable construction to be carried out and the bodies completed at the rate of one bogie coach per working day. The scheme which is estimated to cost Rs. 15,90,654 includes provision for the following works :—

(*a*) A new up-to-date body building shop.

(*b*) Extension of carriage lifting shop by 560 feet.

(*c*) A new steel work erecting and repair shop.

(*d*) The dismantling and re-erection of steel work from present carriage building shop to provide covered accommodation for vacuum brake repairs and painting of wagons.

Repair Shop at Bhusaval (*Great Indian Peninsula Railway*).—The provision of a well-equipped divisional locomotive repair shop at Bhusaval which is the largest locomotive depôt on the Great Indian Peninsula Railway was sanctioned during the year at a cost of about Rs. $5\frac{1}{4}$ lakhs, as it was recognised that up-to-date facilities were urgently needed to enable necessary running repairs to be carried out to engines.

Combined Hostel at Golden Rock.—The provision of a combined hostel to accommodate both Indian and Anglo-Indian apprentices was sanctioned at Golden Rock, South Indian Railway, in connection with the opening of the new Central Workshops and Town at that place.

Rupnarain Bridge.—The advisability of doubling the Rupnarain Bridge on the Bengal Nagpur Railway main line, 34 miles from Howrah, was considered several years ago but the project was deferred owing to the possibility of the construction of the Howrah-Kishnapur chord being undertaken. As the latter scheme has been indefinitely postponed the doubling of this bridge has become a matter of urgency as the existing single line bridge is a bottle neck in a double line section. Moreover the strength of the existing girders was below the main line standard of loading resulting in speed restrictions for all trains. As the strengthening of the existing spans would be very costly it was considered advisable to put in new up track spans and also to replace the existing spans with new girders of the heavy mineral standard of loading. The scheme was estimated to cost Rs. 55,73,916 and was sanctioned on 25th March 1929 and the work is now in hand.

Kalabagh Bridge.—The question of building a bridge at Kalabagh was considered as early as 1888 and investigated again on various subsequent occasions down to 1926. It was considered that the provision of a permanent broad gauge bridge in place of the existing ferry service across the Indus

would not only be financially justified but would be more suitable and would afford the following advantages :—

(1) Unlimited transport capacity;

(2) Reduction of delay to transportation to a minimum;

(3) Suitability for broad gauge extension to Laki Marwat without any additional outlay on the bridge.

The preponderence of military opinion was also in favour of a broad gauge bridge.

An estimate amounting to Rs. 42,76,648 for the bridge was sanctioned by the Railway Board in May 1927 and it was decided that the girders should be designed for the standard main line of 1926 loading and that the project should be treated as part of the commercial section of the North Western Railway. The work was put in hand but unfortunately owing to the bursting of the Shyok glacier in August 1929 followed by abnormally heavy rain in the area drained by the Indus causing an abnormal flood in the river considerable damage was caused to works on the bridge which will delay completion and enhance expenditure.

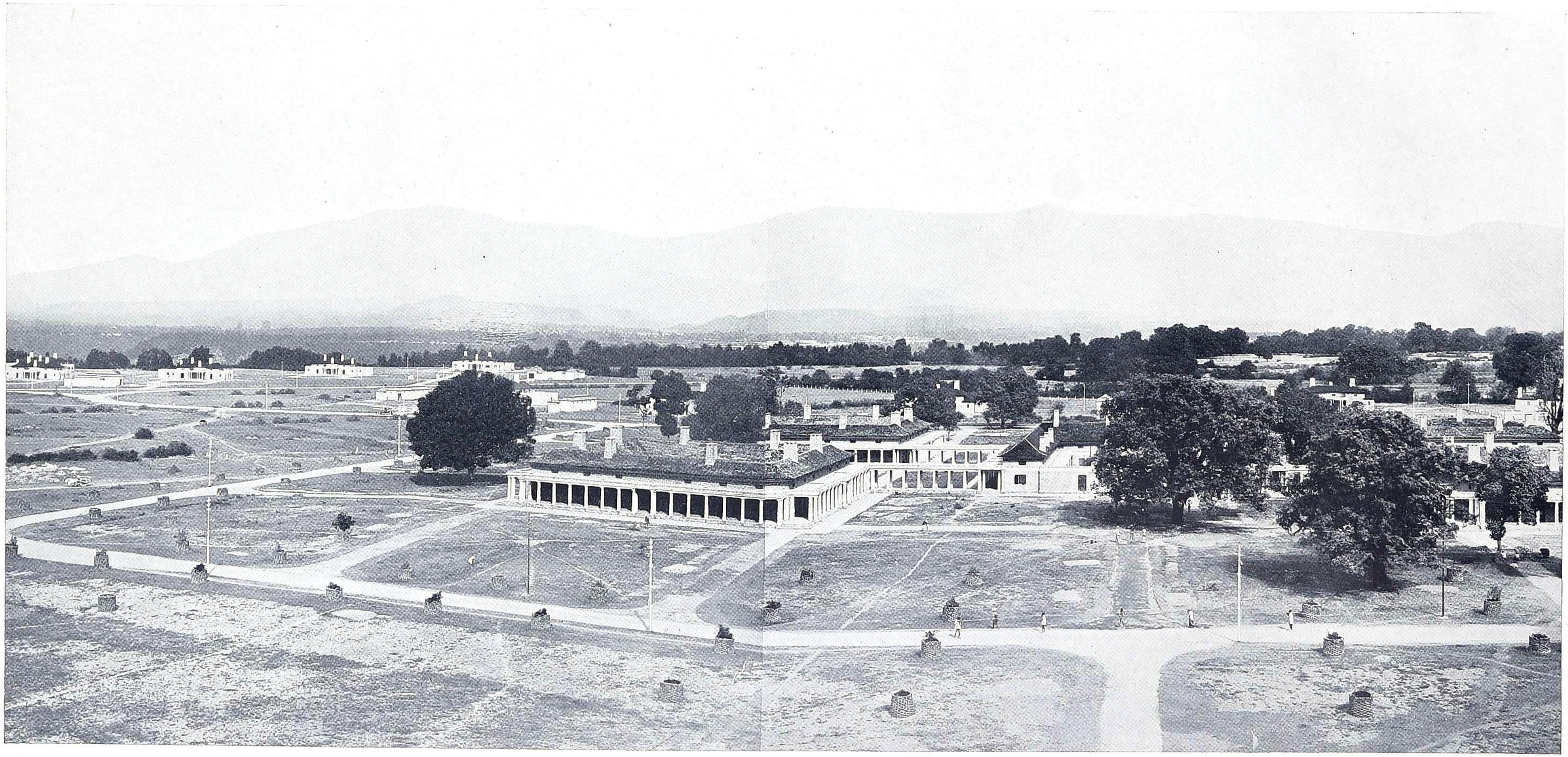
Railway Staff College, Dehra Dun.—Reference was made in para. 80 of the Report on Indian Railways for 1927-28 to the Railway Board having sanctioned a scheme for the Railway Staff College at Dehra Dun at an estimated cost of Rs. 23,37,840. With certain additional works subsequently found to be necessary the estimated cost was raised to Rs. 24,96,000 and sanctioned in July 1929. The work was, however, completed with a saving of about Rs. 1,00,000. The buildings were sufficiently completed to enable courses of instruction being undertaken in January 1930, but the opening ceremony had to wait for a suitable opportunity and was performed on April 3rd, 1930, by His Excellency Sir Malcolm Hailey, Governor of the United Provinces.

The College building, which has a frontage of 360 feet and is surmounted by a clock tower 90 feet high, consists of a large hall, containing a complete model railway, another model room where principally rolling stock models are exhibited, lecture rooms, examination rooms and offices. Hostels for 64 officers and Senior Subordinates and residences for the college staff are provided in the College premises.

Walton Training School, Lahore.—The North Western Railway Training School, originally opened at Lyallpur on the 3rd January 1927, was transferred to new and permanent buildings near headquarters on the 16th September 1929. The present school was formally inaugurated by His Excellency the Governor of the Punjab on the 8th March 1930 as the "Walton Training School, Lahore Cantonment". The buildings comprise the main school building, four dormitory blocks each housing 48 students, (subordinates of the North Western Railway) two blocks of 60 cubicles each, and appropriate quarters for the instructional staff and menials.

Area School at Gomoh.—It was mentioned in last year's report that there was a proposal for the construction of an Area School at Gomoh. After careful consideration, however, the proposal has since been dropped and it is now proposed to make arrangements to hold training and refresher courses at Chandausi except those for power and rolling stock staff and Switchmen, which will continue to be held at Asansol.

51. Open Line Improvements.—*Junction arrangements for the Calcutta Chord Railway on the Eastern Bengal Railway at Dum Dum.*—With the construction of the Calcutta Chord Railway now in hand, which is intended to give direct access to the docks connecting the East Indian Railway at Dankuni and the Eastern Bengal Railway at Dum Dum by means of a bridge over the Hooghly at Bally it became necessary to provide junction arrangements at Dum Dum. An estimate amounting to Rs. 14,95,984 was, therefore, sanctioned in July 1929 for the works required.



General view of the Hostel and Quarters, Railway Staff College, Dehra Dun.

Providing third lines at eight stations between Khargpur and Bhadrak.—In 1924-25 the Railway Board took up the question of improving the line capacity of the East Coast section of the Bengal Nagpur Railway, generally, in order to meet the requirements of traffic, and especially coal traffic from Southern India. Sir George Godfrey, the then Agent, Bengal Nagpur Railway, in a report to the Railway Board, recommended the interpolation of four additional crossing stations between Khargpur and Bhadrak as the capacity of this part of the section was recognised to be one of the chief limiting factors of the whole section. The necessity for extra facilities here is mainly due to the fact that traffic originating and terminating on the Khargpur-Bhadrak length is very heavy. Difficulty was experienced in finding suitable sites for the four additional crossing stations which Sir George Godfrey had in mind and it was ultimately decided that the addition of a third line at eight stations on this length would improve the line's capacity in a more economical and efficient manner. The Railway Board therefore sanctioned this work in substitution of the original scheme.

Installation of Neale's type block instruments on certain sections of the Madras and Southern Mahratta Railway.—Certain important sections of the Madras and Southern Mahratta Railway, such as the Arkonam-Bangalore section, had in use types of block instruments which did not comply with the requirements laid down by the Signal and Interlocking Standards Committee for the installation, maintenance, and working of single line token instruments. The Railway Board, therefore, sanctioned the replacement of these types by Neale's type of block instruments, the type accepted as standard for State Railways. The released instruments are being used on less important branch lines to secure a greater measure of safety on them, than is given by ordinary paper line clear.

Remodelling Myingyan Station Yard, Burma Railways.—The Railway Board have sanctioned the remodelling of the Myingyan station yard in order that the increased traffic resulting from the opening of the Myingyan-Natogyi-Paleik Railway may be efficiently handled. The work is divided into two main portions, (*a*) the remodelling of the traffic yard, and (*b*) the removal of the existing locomotive yard to a new site. It is expected that the work will take about eighteen months to complete.

Remodelling Cuddalore Old Town Station (South Indian Railway).—The entry of the Vriddhachalam-Cuddalore Railway into Cuddalore Old Town station has necessitated the remodelling of the present station yard. Considerable extensions will be made to the goods yard, and the passenger yard will be provided with additional platforms. The existing station building will be retained. The work is estimated to cost about Rs. 8 lakhs.

Dindigul Remodelling, South Indian Railway.—Sanction was accorded to the remodelling of Dindigul Junction at a cost of Rs. 8·05 lakhs, as the existing arrangements were not adequate to meet the increased traffic consequent on the opening of the new Dindigul-Pollachi Railway and the development in main line traffic which amounted to an increase of nearly 50 per cent. in the preceding 5 years.

52. Eastern Bengal Railway ghats.—The aerial survey of rivers was continued in the cold weather of 1929-30 through the agency of the Indian Air Survey and Transport, Limited. These surveys carried out during the two years 1928-29 and 1929-30 covered an area of 1,632 square miles and cost Rs. 76,000. The compilation of the life history of each ghat is being continued and it is expected that the valuable data thus obtained will help in carrying out ghat works with less outlay and more speed.

53. Bridge Standards Committee.—The Bridge Standards Committee met twice during the year in August 1929 and March 1930. Their most important work was to consider the report of the British Bridge Stress Committee which had just been published. This very influential committee had been working for some five years mainly on the subject of Impact on Railway Bridges, and it is satisfactory to note that the formula which they arrived at in 1928, so far as long bridges are concerned, is practically identical

with that which the Bridge Standards Committee had devised in 1925. This formula was accepted by the Railway Board in 1926 and has already prolonged the life of a large number of bridges. As regards the Impact Factor devised by the British Committee for small spans, the Bridge Standards Committee were not satisfied that it was applicable to India, or even correct, and further experiments which they had made and which they considered at the August meeting have confirmed this opinion. The experiments are continuing.

The committee also produced a specification to govern arc-welding as applied to bridges and other structures which the Railway Board have accepted provisionally. Various schemes for bridge strengthening by arc-welding are now in progress in various parts of India resulting in great economies.

The committee also produced a trial specification for the erection of steel bridges by contract, and issued the Tables for the new Standard Metre Gauge Loadings.

54. Track Standards Committee.—The Track Standards Committee held only one meeting during the year, partly in Simla in September and later in October inspecting work in Calcutta. The experience gained with the experimental designs of switches and crossings was considered, and the lines on which the standard drawings were to be finally got out, were decided. In addition to this, ten other matters which were referred to the committee by the Railway Board were reported on, including a series of experiments made to determine a more suitable form of fish-plate for the 90 lb. rail, the existing design of fish-plate having shown signs of failing.

Walton Training School, Lahore.

CHAPTER IV.

TRANSPORTATION AND WORKING.

55. **Statistics of working,** *Business handled.*—The best method of showing the business handled by railways is by means of passenger miles for passenger traffic and net ton miles for goods traffic. These terms mean the total number of passengers and tons carried multiplied by the number of miles over which they are moved. The figures for Class I railways, which carry 97 per cent. of the total traffic of the Indian railways, are given in the table below and show a slight increase in passenger miles and a small decrease in net ton miles over 1928-29.

Particulars.	In thousands.			
	1927-28.	1928-29.	**1929-30.**	Percentage increase or decrease compared with 1928-29.
Passenger miles	20,908,343	21,246,413*	**22,194,143**	+4·46
Net ton miles	21,111,127	21,182,944*	**20,785,621**	—1·88

* Revised figures.

Service performed.—The following table shows the number of train miles run in carrying the above-mentioned traffic. Full details of train and engine miles of Class I railways will be found in statement No. 17 of Volume II and that of Class II and III railways in statement No. 37. Passenger train miles show an increase of 5·2 per cent. on the broad gauge and 12·4 per cent. on the metre gauge. The figures of goods train miles, on the other hand, show a decrease of 3·0 per cent. on the broad gauge and 0·3 per cent. on the metre gauge.

Particulars.	Class I—Railways, Broad Gauge (in thousands).				Class I—Railways, Metre Gauge (in thousands).			
	1927-28.	1928-29.	1929-30.	Percentage of variations with 1928-29.	1927-28.	1928-29.	1929-30.	Percentage of variations with 1928-29.
Passenger train miles	59,893	62,364	65,583	+5·16	17,467	18,713	21,032	+12·4
Goods train miles	42,679	43,420	42,125	—2·98	15,067	15,892	15,838	—0·34

Goods trains.—The average through speed of goods trains shows an improvement, being 10·3 miles per hour on the broad gauge and 9·9 on the metre gauge, as compared with 9·9 on the broad gauge and 9·5 on the metre gauge for the previous year.

The average net load of a goods train works out to 385·6 on the broad gauge and 156·8 on the metre gauge, as compared with 383·0 and 160·8 for the previous year.

Engines.—The work done by engines again shows an improvement, the average number of miles run by an engine per day having increased from 70 to 71 on the broad gauge and from 70 to 73 on the metre gauge.

The percentage of engines under or awaiting repairs has again decreased from 19·9 to 19·1 on the broad gauge and from 17·7 to 16·1 on the metre gauge.

Wagons.—The amount of work got out of the available wagon stock is expressed either in the average number of miles run per wagon per day, both loaded and empty wagons being taken into account, or in the average number of net ton miles performed by a wagon per day. It should, however, be noted that in the case of both statistics, the figures indicate the work done by the total number of wagons on railways and not only by the wagons

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actually in use, as all empty wagons are also taken into account, whether running or lying excess in sidings. The following table shows these two results for 1929-30 compared with the previous year :—

—	Wagon miles per wagon day.		Net ton miles per wagon day.	
	1928-29.	**1929-30.**	1928-29.	**1929-30.**
Broad Gauge	37·3	**37·9**	328·5	**334·5**
Metre Gauge	31·2	**30·5**	153·3	**148·8**

Shunting engine miles.—Apart from the train engine miles or productive work, many thousands of other engine miles are run such as shunting, light, assisting and departmental, which are termed unproductive. Of the unproductive mileage the largest portion consists of shunting and the following table shows the proportion of shunting engine mileage to train mileage for the last three years.

Particulars.	Broad Gauge.				Metre Gauge.			
	1927-28.	1928-29.	**1929-30.**	Percentage of variations with 1928-29.	1927-28.	1928-29.	**1929-30.**	Percentage of variations with 1928-29.
Shunting miles per 100 train miles (Passenger and proportion of mixed).	5·25	5·29	**5·27**	—0·38	5·49	5·48	**5·25**	—4·20
Shunting miles per 100 train miles (Goods and proportion of mixed).	38·0	36·9	**37·9**	+2·71	32·4	32·8	**32·7**	—0·30

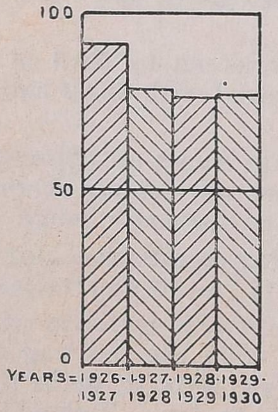
The average percentage of unserviceable wagons to the total number of goods wagons fell from 6·59 to 6·18 on the broad gauge but rose from 3·92 to 4·63 on the metre gauge.

Passenger vehicles.—The percentage of passenger vehicles under or awaiting repairs to the total number on the line decreased from 10·98 to 10·37 on the broad gauge, and from 9·95 to 9·82 on the metre gauge.

56. Fuel Economy.—Fuel Economy continues to receive the attention which its importance justifies. The graphs below show the consumption of coal in lbs. per 1,000 gross ton miles for all services for broad and metre gauges separately for the year under review (1929-30) and the previous three years.

(1)

BROAD GAUGE.

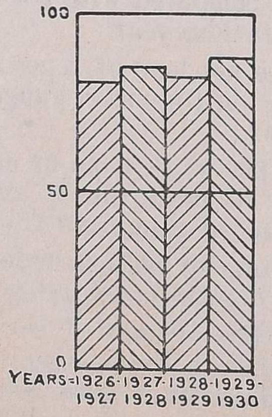


COAL CONSUMPTION

PER 1000 GROSS TON MILES.

(2)

METRE GAUGE.



COAL CONSUMPTION

PER 1000 GROSS TON MILES.

It will be noticed that during the last four years coal consumption on broad gauge railways has tended to decrease in spite of the fact that during this period the proportion of cheaper second class coal used has increased. On the larger broad gauge railway systems separate fuel economy organisations have been introduced and special officers have been appointed as Fuel Officers to initiate and supervise methods by which economy in fuel consumption may be obtained.

During the four years under review the conversion of saturated engines to superheat has been proceeded with, but a larger percentage of broad gauge saturated engines than metre gauge engines have been converted. Although there is a tendency for the coal consumption to increase due to the utilisation of a greater proportion of cheaper second class coal, this possibility has been offset (in the case of broad gauge railways) by the separate fuel organisations and superheater conversion programme detailed above. But in the case of metre gauge railways, where separate fuel organisations cannot be justified and where the proportion of saturated engines converted into superheat has not increased at the same rate as on broad gauge systems, the tendency for the coal consumption to increase due to the utilisation of a larger proportion of cheaper second class coal has not been neutralised.

The Fuel Economy Committee continues to hold its half-yearly meetings with the fuel officers of state-managed railways. Besides bringing a number of technical questions under examination, the method of compilation of domestic statistics relating to fuel consumption was given further consideration, and the Statistical Officer, Eastern Bengal Railway, was appointed to enquire into the methods adopted by the state-managed railways for preparing and presenting statistics relating to fuel consumption. The proceedings of the fuel and statistical officers' meetings, which are held every six months, are considered and discussed at the meetings of the Fuel Economy Committee.

The accumulation of slack and dust coal at pit heads, which is a potential source of danger in the event of fire, is receiving attention, and the Chief Mining Engineer is conferring with the Chief Mechanical Engineers of Railways with a view to devising methods by which this coal can be consumed.

57. **Running of passenger trains.**—The following table shows the running of passenger trains on Class I railways from the point of view of punctuality.

Percentage of trains not losing time to total number of trains run during 1929-30 as compared with 1928-29.

—	All trains.	Mail and important through trains.	Mixed trains.	Suburban trains.	Other passenger trains.
Broad Gauge.					
1929-30	**74·6**	**66·3**	**77·6**	**75·5** **88·3***	**74·1**
1928-29	77·8	69·7	80·5	76·7 81·6*	78·9
Metre Gauge.					
1929-30	**73·3**	**68·6**	**74·4**	**90·7**	**63·6**
1928-29	72·4	68·9	73·8	84·8	61·5

* Great Indian Peninsula and Bombay, Baroda and Central India Railways Electric trains.

It will be seen that on the broad gauge there was a falling off of 3 per cent. in the percentage of trains not losing time while on the metre gauge there was an improvement of 1 per cent. It has been mentioned in

previous reports that the programme of renewals and schemes for improvements interfere seriously with the punctual running of trains and that it is a very difficult matter to reconcile the conflicting interests. Every effort is, however, made to foresee the effect of such works and to allow the necessary extra time in the time tables without lowering the average speed.

58. Bombay Electric Services.—*Great Indian Peninsula Railway.*—The track mileage electrified during the year amounted to 12·3 track miles of sidings in the suburban area, 173·5 track miles of main line and 33·7 miles of sidings on the Kalyan-Poona section. On the 31st March 1930, there was a total of 450 electrified track miles in service. The overhead equipment on the suburban lines continued to work well and the new equipment on the Kalyan-Poona section also gave satisfaction.

Trials were made during 1927-28 with three types of electric passenger locomotives and eventually 21 of the selected type were ordered. At the end of the year under review 10 of these were under erection at the Parel shops. The freight locomotives, of which 41 were ordered, were all in commission before the end of the year. Their tractive effort is normally 50,000 lbs. but as much as 82,500 lbs. can be developed for short periods.

A new rake was specially constructed for the Poona Mail service, consisting of a set of 8 vehicles made up into three articulated units and carried on 11 bogies. The train is vestibuled throughout, and a second train of the same description was under construction during the year.

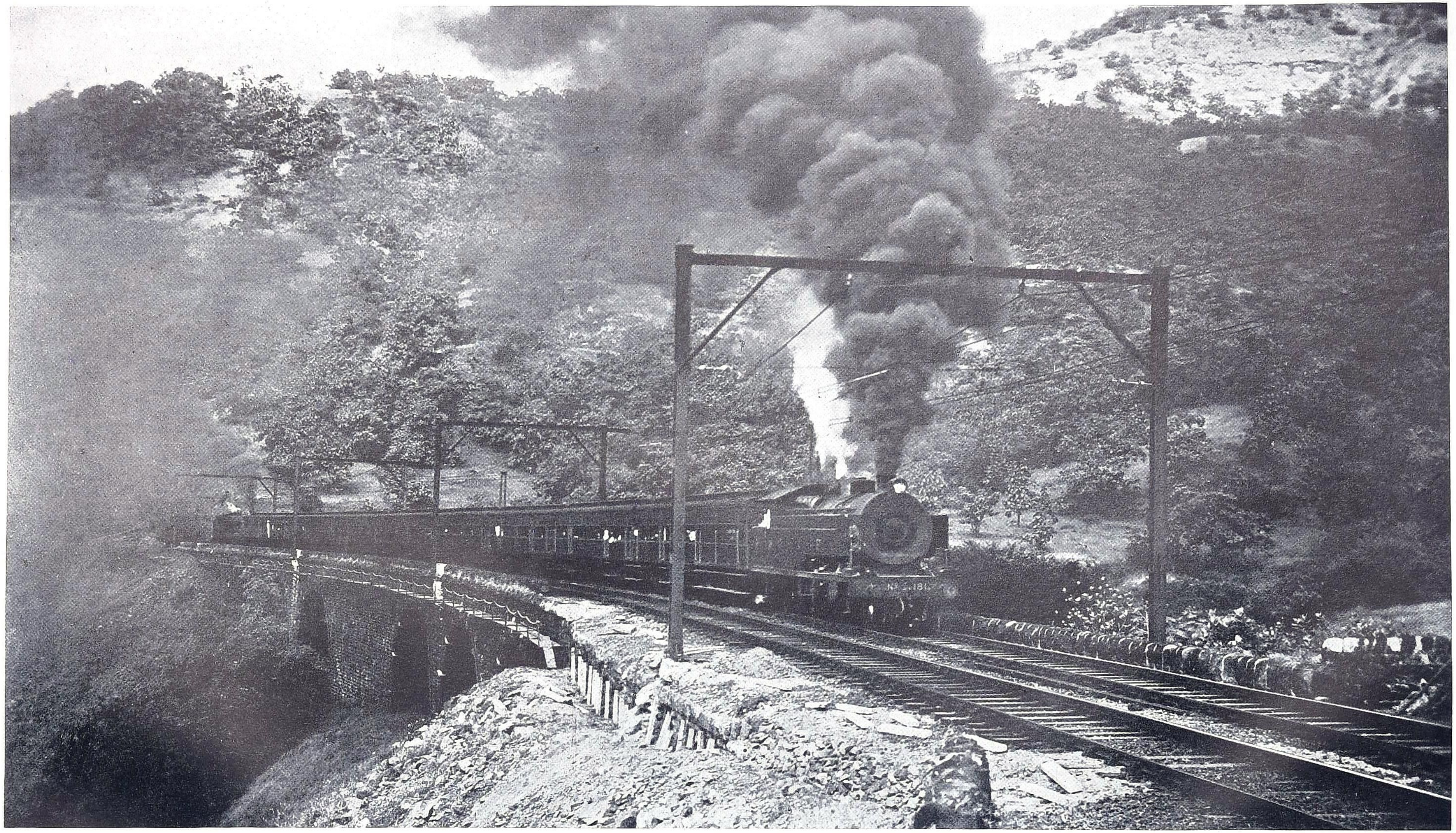
Bombay, Baroda and Central India Railway.—During the year under review, equipments supplied under the several contracts for the Colaba-Borivli section were taken over and finally accepted. The overhead equipment and rail return circuit for electric traction service on the local and through lines between Colaba and Borivli were maintained throughout the year in good working order.

Several modifications were carried out on various items of equipment, which have greatly improved the operation facilities and ensured freedom from serious breakdowns and interruptions to train service of which several occurred during the first three months of the year under report.

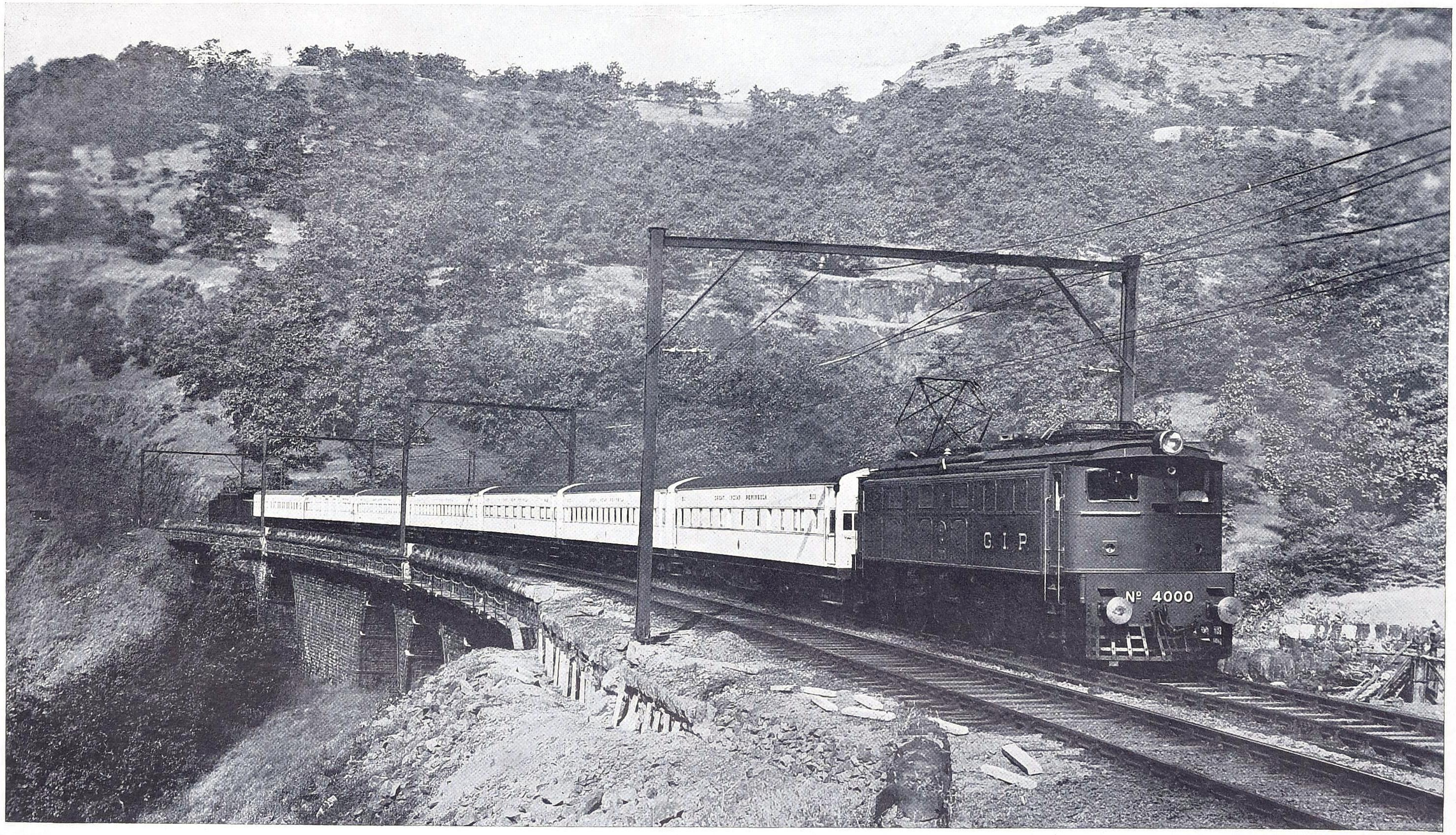
There were 11 breakdowns of the overhead equipment during the year, chiefly due to (1) crow nesting material, (2) contact wire slipping out of clamp and (3) lightning. Protective measures have been taken and as a result, the operations during the latter six months of the year were free from such breakdowns. Three serious breakdowns occurred at sub-stations and track sectioning cabins, one at Grant Road sub-station, one at Bandra sub-station and one at Jogeshwari track sectioning cabin. The 1500 volt D.C. switchgear was completely burnt out. The failures were promptly dealt with and operation maintained by means of switchgear borrowed from the Great Indian Peninsula Railway. Switchgear of new and improved type was subsequently installed.

59. Through Passenger Services.—It was mentioned in last year's report that a through service was being introduced between Peshawar on the North Western Railway and Mangalore on the South Indian Railway. This through service, called the Grand Trunk Express, was introduced from 1st April 1929 and provided accommodation for first, second and third class passengers throughout. The total distance covered was 2,497 miles and the through journey occupied 96 hours and 15 minutes. From 15th October 1929, the through carriages which had been running between Mangalore and Peshawar ran between Mettupalayam and Delhi only, and from 1st March 1930 between Mettupalayam and Lahore.

60. Road Motor Competition.—This is one of the many problems that have come up within recent years and which railway administrations fully recognize is one requiring special investigation and the adoption of measures varying according to the special conditions in the different areas affected. More frequent and rapid train services in some cases, a re-arrangement of the timings of the existing trains in others and the quotation of special reduced fares in a few cases have brought back to the railways some of the



On the Bhore Ghat between Karjat and Khandala—Steam traction.



On the Bhore Ghat between Karjat and Khandala—Electric traction.

traffic which had been diverted to the road. Other measures, such as the opening of out-agencies for booking of passengers, have also been considered but the problem is one that has come to stay, and there can be no slackening, therefore, in the attention that railways have given and are giving to this question. Reference was made in the reports of previous years to the action taken on the different railways, and the following paragraphs detail briefly what each of the principal railways have done during the year under review :

Assam Bengal Railway.—Seven sections of the railway are adversely affected by increasing motor bus competition. An officer has recently been deputed to go into the question and to report whether the train service can be improved or what steps can be taken to compete with the motor services.

Bengal Nagpur Railway.—Road motor competition exists to some extent on all districts of the railway. Efforts have been made to compete with it by the running of light trains or sentinel coaches to convenient timings over distances up to 50 or 60 miles in the vicinity of the larger market towns and district courts and also by the quotation of reduced fares over certain sections. In a few instances these methods have been successful, and in one—on the Katangi branch of Satpura narrow gauge system—a bus service was definitely defeated. In the majority of cases, however, though the light trains and coaches have produced a slight increase in passenger earnings, the bus services have also been maintained or have increased, on account of the convenience of door-to-door conveyance, a facility that the railway is unable to render.

Bombay, Baroda and Central India Railway.—Statements are maintained to show the position in regard to competitive road motor transport services. With a view to competing with the motor services a reduction of fares has been made as a trial on the Nadiad-Kapadvanj and Broach-Jambusar railways. The results are being carefully watched.

This competition is particularly felt between Mhow and Indore, where bus fares have been reduced to a level lower than railway fares.

Three Sentinel coaches and a Sentinel locomotive were obtained and put on the line as under :—

Sentinel coaches.

(1) Between Ajmer and Nasirabad from 15th December 1929,

(2) Between Bhiwani and Hissar, and

(3) Between Kaimganj and Araul from 1st January 1930.

Sentinel locomotive.

(4) Between Jambusar and Kavi from 1st August 1929.

Burma Railways.—Increased speed, additional trains and reduced fares have failed to make any impression upon road motor competition, which to a considerable measure accounts for the drop in coaching earnings. After consulting the local advisory committee, instructions have been issued for the withdrawal of concessions in respect of short distance daily return tickets, as they have failed in their main object of combating motor competition. The continued drop in the earnings of the Rangoon suburban passenger service is undoubtedly due to the intense motor competition. This question is, however, receiving unremitting attention from the Traffic department.

Eastern Bengal Railway.—A comprehensive review of the situation shows that there was little change in the situation during the present year, no serious extension of the competition having taken place. The necessity for keeping a close watch on the situation is realised, and it has been decided that detailed reports shall be submitted by district officers to the Commercial Manager regularly every half-year to enable proposals for alterations in train service, etc., to be discussed and settled before the time tables are finally drawn up and approved.

East Indian Railway.—During the year under review the report of the special officer (mentioned in last year's report) and the further developments in connection with competitive road motor services received constant attention. Adjustments of sectional time tables, the introduction of additional sentinel coach or light train or rail omnibus services, the creation of additional halting places on sections affected by road motor competition and enhancement of the maximum weight from 1 to 2 maunds of other than *bonâ fide* luggage allowed to be carried with passengers represented the more important of the steps taken by the railway during 1929-30 to counteract the adverse effects of road motor competition.

One definite and very important feature has clearly emerged as a result of the further experience gained in connection with this subject, namely the necessity for introducing a well thought out scheme for continuously watching and maintaining effective control over the various sections of the line affected by road motor competition as well as the numerous details and varying conditions associated with such sections of the line. Accordingly, towards the end of 1929-30 a special scheme was inaugurated by the Commercial department whereby a comprehensive analysis in summary form on a standardised basis for each of the sections of the line affected by road motor competition, was initiated. The main divisions of this summary are as follows :—

(*i*) Physical features.

(*ii*) Statistical review.

(*iii*) Proposals made and steps taken to counteract the adverse effects of road motor competition.

(*iv*) Current proposals for further action to counteract road motor competition.

Great Indian Peninsula Railway.—The competition of motor buses on sections where roads run parallel to the line or short circuit it has continued to be keen, but is still mostly confined to passenger traffic. 175 stations were affected in 1929-30 as compared with 130 in 1928-29.

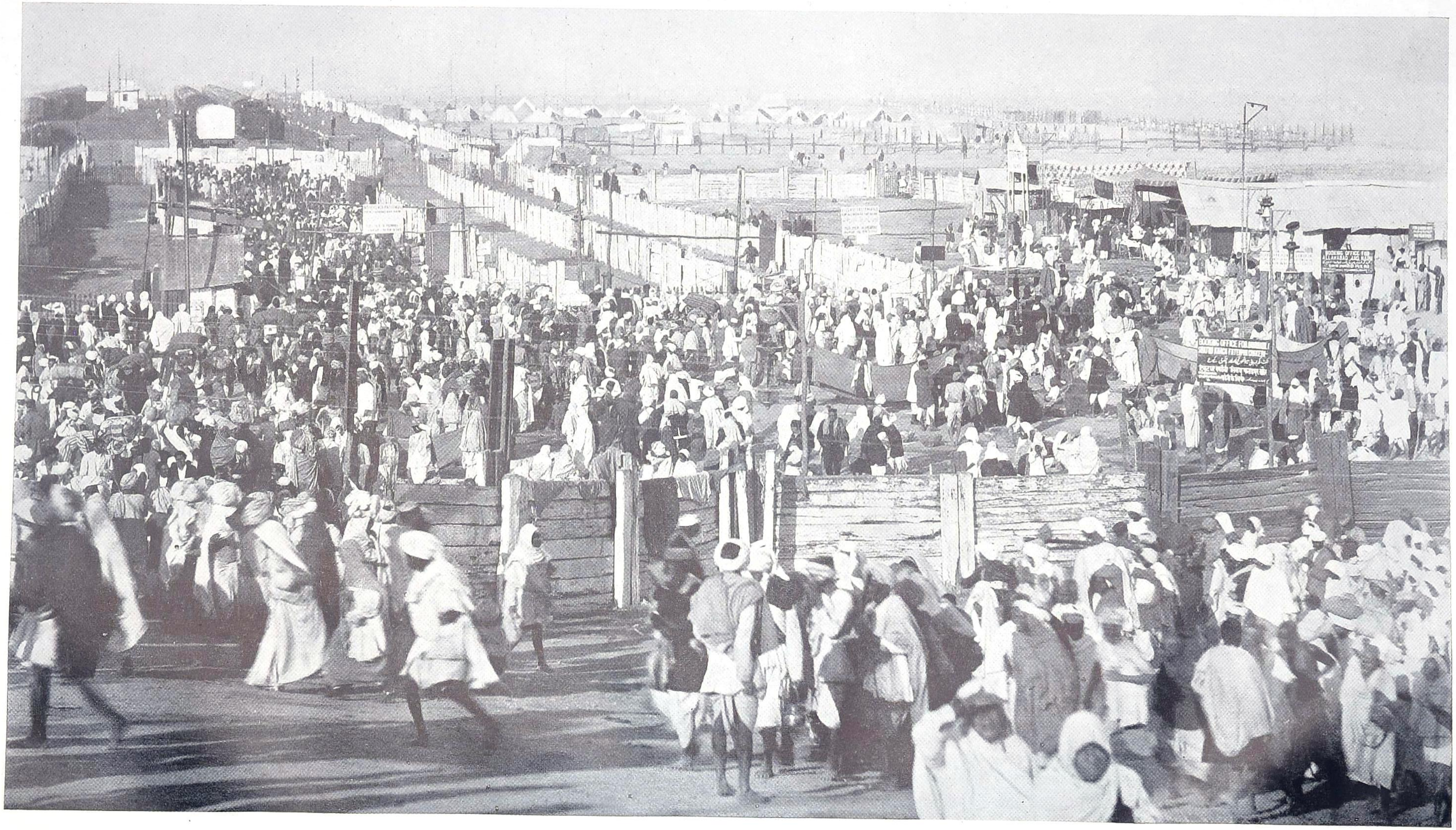
On the introduction of a reduced third class fare and return tickets from 15th February 1929, the number of passengers from Sholapur to Barsi Town rose from 1,254 during the half year ending 31st March, 1929, to 4,632 during the half year ending 30th September, 1929, an increase of 269 per cent. Similarly the earnings rose from Rs. 1,627 to Rs. 4,632. The figures for the half year ending 31st March, 1930, were equally satisfactory.

Third class return tickets at reduced fares were also introduced on the Sholapur-Pandharpur, Poona-Baramati and Jalgaon-Bhusaval sections.

On the Central Provinces Railways reductions were made on either single or return tickets between certain stations. The experiment was also made of allowing passengers to carry their bazaar supplies within the free allowance of luggage, as it was found that the motor buses which were competing with the railway were carrying such parcels without charge. The question of providing additional halt stations where possible was considered and several halt stations have been opened. Additional services were introduced on the following sections :—

Kalyan-Kasara, Dhond-Manmad, Bhusaval-Amalner, Itarsi-Amla, Kunch-Ait, Nagpur-Pulgaon.

Madras and Southern Mahratta Railway.—The effect of road motor competition continued to be felt as in the previous year, especially on the Poona branch; in fact, wherever suitable roads are provided, motor bus services are encountered. Road operating companies on a large scale have not yet made their appearance and the present road services are usually in the hands of owners operating on a small scale. Close attention is given to suitability of train services to counter road competition, but there is no doubt that considerable traffic is definitely lost to the railway where the railway route



Kumbh Mela (1930)—Allahabad. Sangam Station on 24th January 1930.

Kumbh Mela (1930)—Allahabad. First aid station with pilgrims arriving.

happens to be a circuitious one, as is the case between Gooty and Anantapur, Adoni and Bellary, etc., or where the motor bus provides a convenient and direct service to and from adjacent towns, as between Hubli and Dharwar.

North Western Railway.—With the ever increasing number of public motor vehicles plying for hire, the extension of roads, and the general improvement in the standard of their upkeep, motor transport is a competing factor which necessarily must become more pronounced. It is accepted that little can be done to deflect passenger traffic from motors where the road short-circuits a section of line. Motor competition first came into prominence on this railway in 1926-27 and various measures have been adopted from time to time to counter its effects. Rates and fares have been reduced, week-end concessions granted, additional trains introduced, and passenger and goods train services speeded up. These measures have had varying degrees of success, but without door to door or village to village transport facilities, there will remain for railways the problem of influencing lower class passengers to travel by rail in cases where journeys can be performed direct by road motor in less time and cost in the aggregate for the through distance.

Rohilkund and Kumaon Railway.—Motor bus competition in third class traffic still continues but there has been no noticeable increase in the number of the buses operating on the sections affected. The use of return tickets now being issued by the railway is growing and the extended period of availability has increased their popularity. On the Bareilly-Pilibhit and Sitapur-Lucknow sections the position appears to have improved and the competition reduced. Competition on the Bareilly-Kathgodam section is, however, still keen.

South Indian Railway.—Motor bus competition is steadily increasing and measures to regain traffic by running rail motors, introducing additional shuttle train services, alteration of timings to suit the convenience of the public, etc., continue to be made, with little success however, except in isolated cases. Reduced fares have also been tried but they have little effect in diverting traffic from the road to the rail-route, as a reduction in train fares is usually followed by reduction in bus fares. In certain sections, however, additional train services and alterations in the timings have had the effect of reducing the number of motor services, whilst in other cases there have been no increases in the number of buses plying, or, in other words, no fresh inroads into the earnings of the railway.

61. Kumbh Mela, 1930.—This mela was held during the period 8th January to 8th February 1930 after a lapse of 12 years. It was estimated that approximately 7 lakhs of pilgrims would visit Allahabad by rail for the purpose of bathing at the confluence of the Ganges and the Jumna and arrangements were made accordingly. A temporary pilgrim station was constructed at Sangam, nearer to the confluence of the two rivers than Allahabad Fort station and was used throughout the entire period in connection with the mela traffic. The estimate of the number of pilgrims was an accurate one, as the figures available show that approximately 707,000 pilgrims were carried in the inward direction and 773,000 in the outward direction.

To deal with the inward traffic it was necessary to run 244 mela specials to the mela area, *viz.*, Naini, Allahabad, Prayag and Prayag Ghat stations, while 287 specials were used to convey pilgrims during the outward rush. Some of these special trains were continued on to Sangam and started from that point. In addition, regular shuttle trains were run daily between Allahabad and Sangam to suit the convenience of pilgrims. The total inclusive number of trains worked between Allahabad station and Sangam was 298 in both directions. The exodus of pilgrims from the mela area was heaviest from the 29th January to the 31st January inclusive during which period 320,000 passengers were despatched and 225 outward specials were run. It may be mentioned that the whole of this very heavy traffic was handled without using a single goods wagon for the carriage of passengers.

62. Shortage of wagons.—In paragraph 65 of the report for 1928-29, reference was made to the difficulties that were experienced in February and March 1929 in the supply of wagons for the coalfields on the East Indian and Bengal Nagpur Railways. A somewhat similar situation arose during the year under review, for a period of about three weeks during February and March 1930, when the demand for stock for loading at the collieries on the East Indian and Bengal Nagpur Railways was in excess of the stock available. The difficulty was accentuated by a strike on the Great Indian Peninsula Railway, which resulted in the latter railway not being able to maintain equalisation of stock with the Bengal Nagpur Railway, the number of wagons made over by the Great Indian Peninsula Railway to the Bengal Nagpur Railway, up to the end of February 1930 being about 2,800 less than the number of wagons made over by the Bengal Nagpur Railway to the Great Indian Peninsula Railway. This incidentally resulted in the East Indian Railway having to haul a large number of empty wagons to the coalfields. In spite, however, of the shortage of wagons the quantity of coal despatched during the first three months of 1930 exceeded the quantity despatched during the corresponding quarter of 1929 by nearly 300,000 tons.

63. Working of the Wagon Pool.—During the year under review there were, as usual, ample wagons to meet all demands until about the middle of December when demands for the loan of wagons from the pool commenced. Up to the end of December all requests from railways for assistance were met in full, but from the beginning of the year 1930 the demands exceeded the supply and this situation continued until about the middle of March. The total number of wagons loaded daily during January, February and March compares with the corresponding months of the previous year as follows :—

	January.	February.	March.
1929	13,588	13,590	13,159
1930	**13,497**	**13,148**	**12,446**

The slight falling off compared with the previous year was due principally to the strike on the Great Indian Peninsula and His Exalted Highness the Nizam's Guaranteed State Railways, which resulted in a large number of wagons being locked up : but for this it is probable that the figures for 1930 would have been higher than in the previous year.

Neutral Control.—The system of neutral control of wagon examination at junctions of interchange was in operation at the following stations throughout the year :—

Jumna Bridge—Agra East Bank.

Khanalampura.

Delhi Sadar.

Ghaziabad.

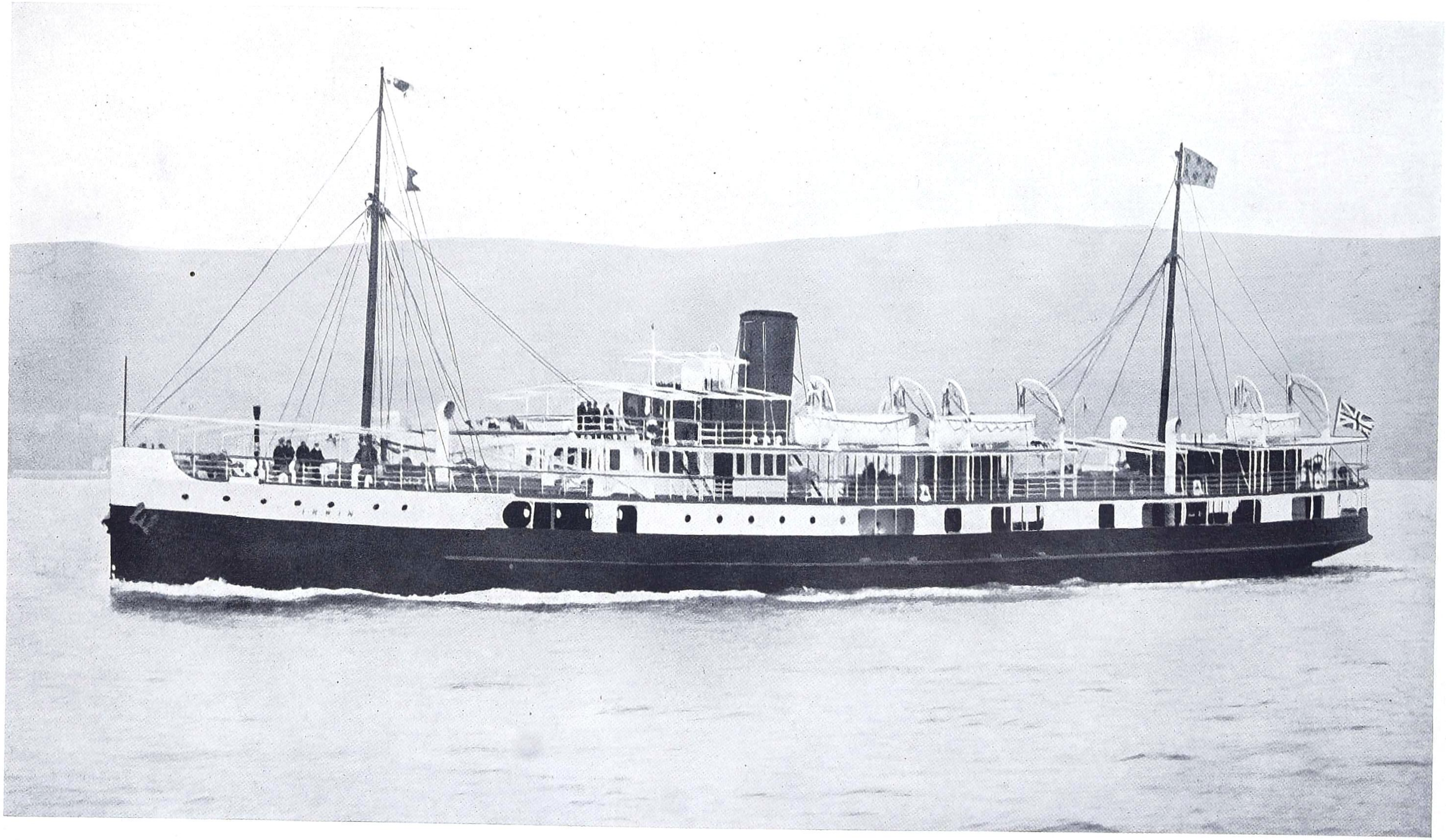
Chheoki.

and was introduced at Raichur and Waltair on the 1st and 15th February respectively.

Debits for damages and deficiencies.—The debits raised for damages and deficiencies at junctions under neutral control show a further reduction during the year, as will be seen from the following figures :—

	Number of wagons dealt with.	Debit per wagon dealt with. Rs. A. P.
1928-29	789,182	2 0 3
1929-30	**804,908***	**1 13 8**

*Includes figures for Raichur and Waltair for 8 and 6 weeks respectively.



S. S. "Irwin."

The percentage of wagons rejected at neutral control junctions during the period under review was 1·12 as compared with 1·2 in the previous year.

64. Coal.—In 1929 the coal mined in the various provinces of British India amounted to 22,308,174 tons as against 21,515,796 tons in 1928—an increase of 792,378 tons.

The output from the principal railway-owned collieries during 1929-30 compares with the previous year's output as follows:—

Colliery.	Owned by	Output (tons).		Distribution in 1929-30.					Sales and consumption at Colliery.
		1928-29.	**1929-30.**	E. I. R.	B. N. R.	E. B. R.	G. I. P. R.	N. W. R.	
Bokharo Ramgarh.	E. I. & B. N.	922,174	**969,984**	426,650	455,444	...	...	...	87,890
Sawang . .	E. I. & B. N.	121,024	**96,776**	36,565	44,832	...	...	...	15,689
Kurhurbaree and Serampore.	E. I. . .	746,286	**645,510**	442,012	...	...	...	...	215,159
Bhurkunda	State . .	74,041	**100,571**	16,677	...	2,079	...	81,726	...
Kargali . .	State . .	762,451	**914,059**	154,118	...	175,177	514,301	3,194	67,269
Argada . .	B. N. . .	303,439	**340,396**	...	...	...	...	...	...
Jarangdih .	B., B. & C. I. & M. & S. M. Rys.	114,792	**116,910**	...	...	..	...	...	...
	Total .	3,044,207	**3,184,206**	1,076,022	500,276	177,256	514,301	84,920	386,007

The principal despatches of coal were from the East Indian and Bengal Nagpur Railways, *viz.*:—

	Tons.
From East Indian Railway	15,093,410
From Bengal Nagpur Railway	7,740,917
Total . .	22,834,327

Shipments from Calcutta.—Including bunker coal, shipments from the port of Calcutta to Indian and foreign ports during 1929-30 amounted to 3,598,858 tons, of which 708,765 tons were on account of Indian railways and 194,147 tons for the Ceylon Government Railways, making a total of 902,912 tons as compared with 774,478 tons in 1928-29. In addition 132,156 tons were shipped by boats and flats from Calcutta.

Inspection of coal.—The State Railways Coal department inspected 6,360,264 tons of coal during the year under review as compared with 5,648,121 tons in 1928-29, and also continued its work on behalf of the Coal Grading Board. The amount of cargo coal shipped to various ports during 1929 was 2,529,012 tons.

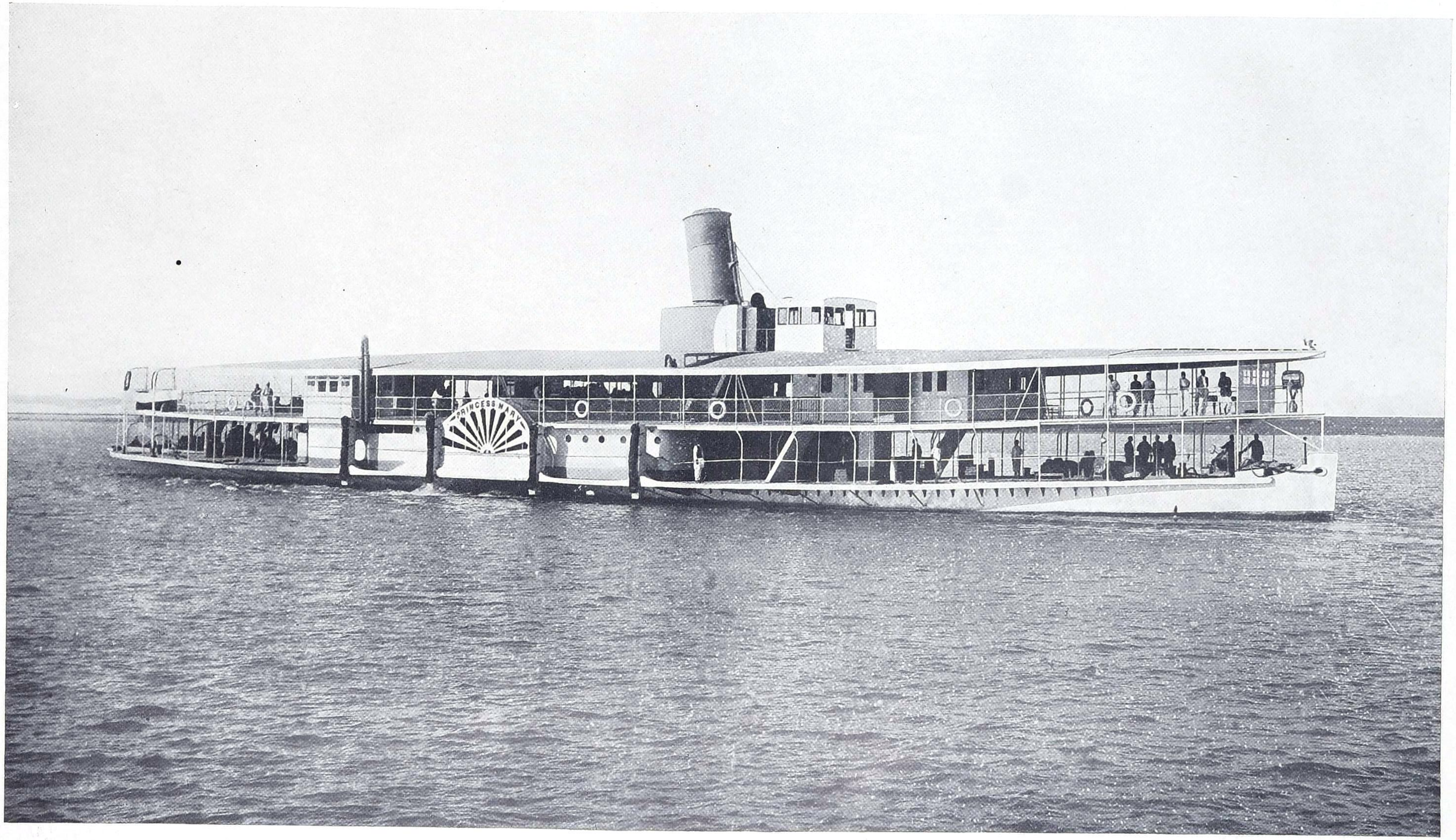
Kargali Colliery.—During the year under review the erection of the screening plant at the north and south shafts was completed. The lighting of the main siding and hospital has been carried out and the overhead transmission line to Messrs. Bokaro Ramgarh, Limited's Dhori colliery was put into commission in September 1929.

Bhurkunda colliery.—The development work underground continues to progress satisfactorily. Direct haulages in the Upper Simana inclines were completed and electric pumps were installed in two inclines. The Kurse seam was proved and work on three new inclines commenced. The screening plant was erected and put into commission, and the weighing of coal wagons on the colliery siding weighbridge commenced in February 1930.

65. Steamers.—Two new steamers, the "Irwin" and "Goschen," arrived at Colombo from England in October 1929 for the South Indian Railway service between Dhanushkodi and Talaimannar and were put into service in December 1929. It is interesting to note that it is 16 years since

the inauguration of this steamer service. The gross earnings of this service for 1929-30 were Rs. 7,63,578 while the working expenses amounted to Rs. 3,33,640.

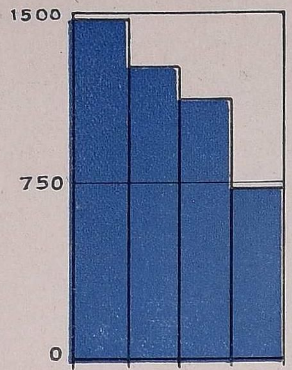
The paddle steamer "Princess Mary" belonging to the Eastern Bengal Railway was converted from oil to coal-burning during the year. It was originally fitted with a Yarrow boiler burning liquid fuel on the closed stoke-hold system. Owing to the high cost of liquid fuel, roughly Rs. 60 per ton against Rs. 12 per ton for coal, it was decided to convert this steamer to coal-burning. This necessitated the substitution of another boiler, the Yarrow boiler not being suitable for coal-burning, and a White-Foster water tube boiler, complete with induced draught, has been installed at a cost of roughly Rs. 65,000. The whole of the work was done in the Eastern Bengal Railway dockyard at Paksey, in spite of the fact that facilities for such work are practically non-existent. The trials have shown that the results are most satisfactory. The anticipated annual saving from the use of coal instead of oil fuel on this steamer is approximately Rs. 23,000.



S. S. "Princess Mary".

(5)

Broad Gauge

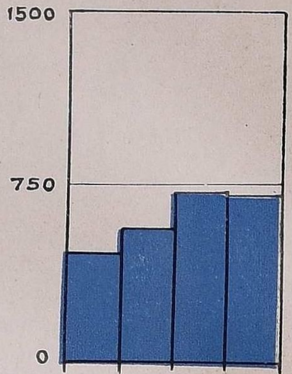


YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Number of Coaching Stock Units provided for in the Programme

(6)

Metre Gauge



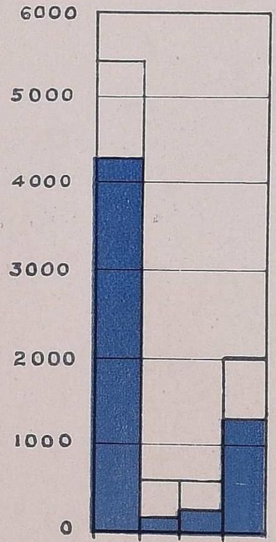
YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Number of Coaching Stock Units provided for in the Programme

General Service shown in Blue
Other Types of Wagons shown in White

(7)

Broad Gauge

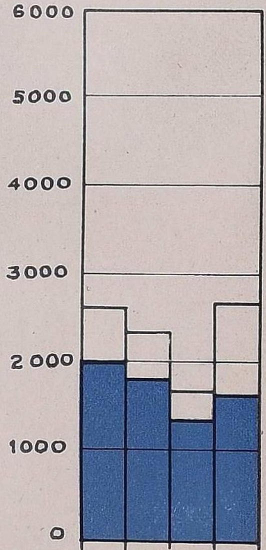


YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

General Service & Other Types of Wagons in Units provided for in the Programme

(8)

Metre Gauge

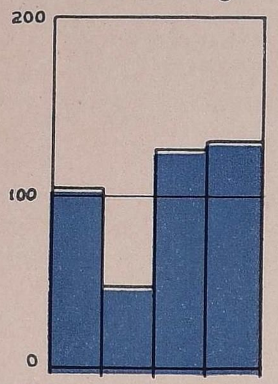


YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

General Service & Other Types of Wagons in Units provided for in the Programme

(1)

Broad Gauge

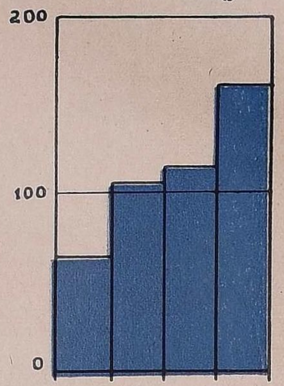


YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Number of Locomotives provided for in the Programme

(2)

Metre Gauge



YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Number of Locomotives provided for in the Programme

(3)

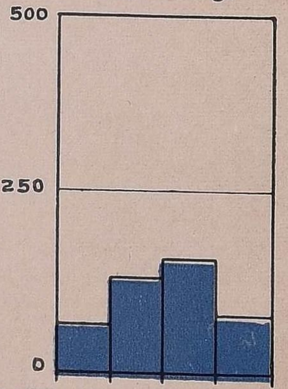
Broad Gauge

YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Number of Spare Boiler & Super-heating Requirements provided for in the Programme

(4)

Metre Gauge



YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Number of Spare Boiler & Super-heating Requirements provided for in the Programme

CHAPTER V.

ROLLING STOCK AND MATERIALS.

66. Additions to equipment.—The equipment and the net additions to equipment of Indian Railways during 1929-30, are tabulated in summaries Nos. VIII and IX in Volume II of this Report. The details for individual lines will be found in statements Nos. 10, 11, 34 and 35.

During the year the following rolling stock, including arrears brought forward from previous years, was on order for broad and metre gauge railways :—

	Broad Gauge.	*Metre Gauge.*
Locomotives	380	282
Coaching stock	2,051	1,367
Goods stock	3,030	4,458

Against these numbers those actually placed on the line during the year were as follows :—

	Broad Gauge.	*Metre Gauge.*
Locomotives	120	124
Coaching stock	954	534
Goods stock	2,560	1,793

67. The numbers of coaching and goods stock are stated in terms of four-wheelers, a bogie being reckoned as two four-wheelers. These figures do not, however, represent the actual additions to rolling stock as they also include stock built in replacement of engines and vehicles which had reached the end of their economic life.

On the broad gauge 188 locomotives were scrapped during the year, of which 120 were replaced with new ones, so that the number of locomotives on 31st March 1930 was 68 less than at the beginning of the year.

On the metre gauge 45 locomotives were replaced during the year by new ones and in addition 79 were added to the stock. A further steady rise is apparent in the average tractive effort per engine which on the broad gauge rose from 22,832 lbs. to 23,536 lbs. and on the metre gauge from 13,479 lbs. to 13,943 lbs.

Coaching vehicles.—On the broad gauge 1,222 old type carriages were replaced by higher capacity vehicles of modern type, thus increasing the broad gauge seating accommodation by 3,688 intermediate and 51,313 third class seats during the year. On the metre gauge 613 intermediate class seats were added and 3,571 third class.

Wagons.—3,428 broad gauge wagons were scrapped during the year but 2,560 of them were replaced. The net reduction in number was 868 and in tonnage capacity 46,628 tons. The metre gauge wagon stock was increased by 1,119 in number and 23,357 in tons of capacity.

68. The graphs opposite indicate the total numbers of locomotives, boilers, carriages and wagons including replacements provided for in the programmes of Class I railways during the past 4 years.

69. Standardization of Locomotives.—At the close of the year under review, 402 locomotives, constructed to the Indian Railway Standard designs, had been received and placed in service and a further 220 standard locomotives were on order. The locomotives now in service represent thirteen different types (seven 5 ft. 6 ins. gauge, four 3 ft. $3\frac{3}{8}$ ins. gauge and two 2 ft. 6 ins. gauge) and include 5 ft. 6 ins. gauge shunting locomotives with 17 and $22\frac{1}{2}$ ton axle-loads (XF and XG) and a 3 ft. $3\frac{3}{8}$ ins. gauge branch line locomotive of 8 ton axle-load (YF) which made their first appearance in India during the year.

The building of three further types, comprising a 5 ft. 6 ins. gauge 4-cylinder express passenger locomotive (XS) and 5 ft. 6 ins. and 3 ft. $3\frac{3}{8}$ ins. tank locomotives for short branch line passenger traffic (XT and YT), was well advanced at the end of the year and their arrival in 1930-31 will mark the completion of the detailed standard designs for fourteen out of the sixteen standard types hitherto contemplated by the Locomotive Standards Committee for broad and metre gauge lines.

Four experimental 4-cylinder passenger locomotives of the type referred to above are under construction. Among the features of special interest on these locomotives, the provision of the Caprotti poppet valve gear on two locomotives and the Lentz rotary cam poppet valve gear on the remaining two, also the positioning of the cranks at 135°, so as to give eight impulses per revolution, on one locomotive fitted with each type of valve gear may be mentioned. On their arrival in this country these experimental locomotives will undergo extensive comparative trials to determine both the merits of the two types of valve gear and the general performance of these locomotives relative to the standard heavy 2-cylinder passenger locomotive (XC).

The Locomotive Standards Committee met once during the year and dealt with a large number of modifications considered desirable as a result of further experience gained with locomotives built to the standard designs.

70. Standardization of Rolling Stock.—Prior to this year no vehicles, other than the original sample vehicles, had been built to the Indian Railway Standard designs. During the year the following Indian Railway Standard vehicles (expressed in terms of 4-wheeled units) were constructed, all being built in India with the exception of 63 broad gauge and 18 metre gauge wagon units.

	Carriage Underframes.	Wagons.
	Units.	Units.
5 ft. 6 ins. gauge	741	1,886
3 ft. $3\frac{3}{8}$ ins. gauge	268	1,420

The carriage underframes comprised three standard types, the whole being built at the East Indian Railway's work at Tatanagar. The wagons were of six broad and eight metre gauge standard types.

During the year orders were placed for the following additional Indian Railway Standard vehicles (expressed in terms of 4-wheeled units), all orders being placed for construction in India.

	Carriage Underframes.	Wagons.
	Units.	Units.
5 ft. 6 ins. gauge	335	1,091
3 ft. $3\frac{3}{8}$ ins. gauge	400	1,103

Sample broad gauge 64, 80, and 135 ton well wagons, steel motor vans, and metre gauge 72 ton well wagons were received during the year, and the

following sample vehicles were under construction in England at the close of the year :—

5 ft. 6 ins. gauge.	3 ft. 3⅜ ins. gauge.	2 ft. 6 ins. gauge.
Short bogie carriage underframes.	Short bogie carriage underframe. 4-wheeled carriage underframe. Modified 4-wheeled covered jute wagon. Modified bogie covered wagon.	Carriage underframe six types of wagons and brake van.

It was decided during the year that the building of sample vehicles and the preparation of detailed standard drawings should in future be undertaken in India, and in pursuance of this policy detailed drawings of high capacity metre gauge petrol and oil tank wagons were completed and sample orders placed. Detailed drawings of the Indian Railway Standard automatic vacuum brake fittings were also completed and their issue early next year is anticipated.

The Carriage and Wagon Standards Committee met twice during the year and made considerable progress, particularly in regard to the standardization of coaching vehicle bodies and electrical equipment. The first sample standard I and II class composite carriage body was examined by the committee at their last meeting.

71. Stores Standards Committee.—The standing Committee on Standards and Specifications for Indian Railways met once during the year and approved of provisional specifications for 68 additional items in general use on railways. In last year's report it was wrongly stated that 132 specifications had been drafted and approved by the Railway Board. 132 specifications had been provisionally approved at the close of that year but it was not until December 1929, when an officer was placed on special duty to deal with this work, that the drafting of specifications was actually commenced. At the end of the year under review the first fifty specifications had been drafted and arrangements for their issue were practically complete. It is hoped that during 1930-31 this work will be brought up to date and that at least 200 specifications will be issued.

72. Supply of rails and fishplates from indigenous sources.—During the year under review orders amounting to approximately 116,759 tons of rails and 4,095 tons of fishplates were placed with Messrs. The Tata Iron and Steel Company. This amount included 8.688 tons of 115 lbs. rails.

73. Development of the use of indigenous timbers for sleepers and carriage building.—In collaboration with the Forest Research Institute, Dehra Dun, research work on problems connected with suitable timbers for sleepers, carriage building, railway keys, etc., made steady progress and a number of officers and subordinates from railway workshops paid visits to the Research Institute on deputation for short periods.

At Dhilwan on the North Western Railway over 6 lakhs of broad gauge coniferous sleepers were treated with a mixture of 50 per cent. creosote and 50 per cent. liquid fuel. The average cost of treatment was Rs. 1-13-9 per sleeper. During the year successful experiments at Dehra Dun indicated that by changing the method of treatment adequate impregnation of Chir (Pinus longifolia) sleepers could be obtained with a saving of not less than 8 lbs. of the mixture of oils and the adoption of this method at Dhilwan should reduce the cost of a treated Chir sleeper by 8 annas.

During 1929-30 the Naharkatya Treating Plant in Assam treated 2·20 lakhs of metre gauge sleepers which were divided equally between the Assam Bengal and Eastern Bengal Railways. The total cost of treatment worked

out at Rs. 1-3 per sleeper, but it is hoped to reduce this amount later, as provision had to be made for an abnormal wastage of sleepers in the first year's supply. According to present arrangements this plant is treating 2 lakhs per annum, but it is capable of expanding to 3 lakhs, when required.

Owing to the restriction in the construction programme and consequent reduction in the demand for sleepers, it was decided to hold in abeyance the installation of the sleeper treating plant which it had been proposed to establish at Jharsaguda on the Bengal Nagpur Railway.

The battery of Sturtevant kilns for seasoning timber at Lillooah on the East Indian Railway, the erection of which was begun last year, was completed by February 1930, but unfortunately the sudden death of the officer-in-charge delayed their operation. Owing to the courtesy of the Inspector General of Forests arrangements were made to start the kilns under the supervision of an officer lent by the Forest Research Institute, Dehra Dun.

Statistics have been collected to compare the 1929-30 consumption of timber for carriage building with that of 1927-28 and the following are the most striking features. The quantity of Indian Teak used, as distinct from Burma Teak, rose from about 700 tons to 4,000 tons and the quantity of indigenous timbers (other than teak) rose from 9,800 tons to 12,000 tons. The economy resulting from this substitution of timbers which are cheaper than Burma Teak, represents a sum of about 5 lakhs of rupees, and it is hoped that this figure will steadily grow now that the practice of using less expensive timber, at any rate for repairs and miscellaneous purposes, is extending. Completely satisfactory reports have been received on the coach made in 1928 of Central Provinces teak.

The total amount spent on timber, other than sleepers, by Class I Railways (excluding His Exalted Highness the Nizam's Guaranteed State Railways and Jodhpur Railway) during the year was Rs. 104·47 lakhs.

74. Sleeper Pool Committee.—The fourth annual meeting of the Sleeper Pool Committee, with the Director, Civil Engineering, Railway Board, as Chairman, and the Timber Advisory Officer with the Railway Board, as Secretary, was held at Simla on the 5th July 1929.

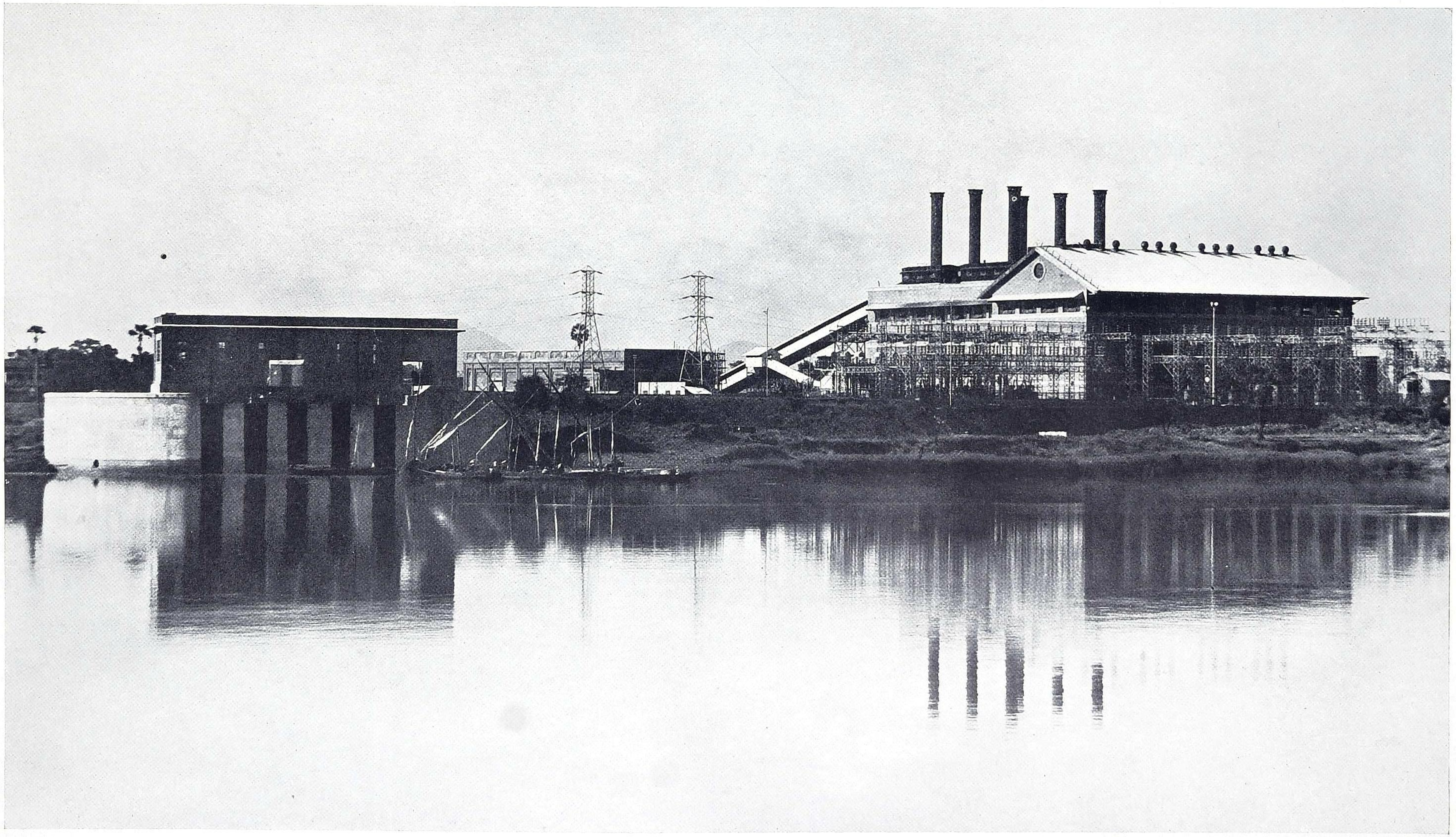
The total number of wooden sleepers purchased during the year was 22·54 lakhs broad gauge and 15·44 lakhs metre gauge, showing increases of half a lakh and 1¼ lakhs over the previous year, but about 6 lakhs broad gauge sleepers less than in 1927-28. During 1929-30, 4¼ lakhs were supplied from the forests of Nepal, which completed the total of 9 lakhs promised over a period of 3 years. The supply was reported to be most satisfactory as regards quality and regular delivery. No foreign wooden sleepers were imported during the year.

The tendency of prices in the Northern Group can be judged from the fact that annual contracts have been placed, for supply during 1931-32, for Deodar at Rs. 5-8, for Chir at Rs. 3-4, for Fir at Rs. 3, compared with Deodar Rs. 6-8, Chir Rs. 3-8 and Fir Rs. 3-4, the prices agreed upon in 1928.

In the Eastern Group Rs. 7-8 was paid for Sal broad gauge compared with Rs. 8 last year and, in spite of the reduced price, tenders for 5½ lakhs broad gauge and 5 lakhs metre gauge were received in October 1929 when the call was for only 2 lakhs broad gauge and 1¼ lakhs metre gauge.

The total amount spent on wooden sleepers on Class I Railways (excluding His Exalted Highness the Nizam's Guaranteed State Railways and Jodhpur Railway) was Rs. 2·37 crores.

75. Electric lighting of minor railway stations.—The question of the more extensive use of electric light and power in railway stations and yards has been engaging the attention of the Railway Board for some time past. A committee of electrical engineers of some of the principal railway administrations was convened in November 1926 to consider and report on the



Chola Power House near Kalyan.

best method of lighting large railway areas and minor railway stations. After consideration of this committee's report, the Railway Board invited the attention of the railway administrations to the need for further experiment and investigation in regard to yard lighting and to the importance of giving due consideration to lighting problems when preparing yard designs. At the same time they issued orders for the institution of trials on some stations of the East Indian and North Western Railways with steam driven and internal combustion generating sets. The reports on these trials have furnished valuable data for comparison of costs and have indicated lines along which progress can most satisfactorily be made. It has also become evident that for small stations while a steam driven plant has only a very limited scope oil engines are, as a rule, more economical in point of operating costs and have proved reliable.

76. Poppet valves.—Poppet valves, in place of piston valves, were in use on three railways at the end of the year, and on order for four other railways. These valves are either of the Caprotti or Lentz type. On two railways Lentz type valves were actuated by existing Walchaert gear, but it would appear that all future applications of these valves will be with Rotary gear. The results so far obtained have been satisfactory, and what troubles have been experienced have not been serious and the results of experiments appear to show that a saving of fuel will be possible by their use. Experiments are only in the initial stages and it is too early to make a definite pronouncement as to whether it is desirable to extend the use of this type of valve which, at present, is more expensive than the ordinary type of piston valve.

77. Value of railway materials purchased.—The value of stores purchased by Indian Railways in 1929-30 shows an increase from Rs. 29·63 crores to Rs. 30·06 crores. The principal increase was under rolling stock (366 lakhs).

The value of indigenous materials shows an increase from Rs. 12·81 crores in 1928-29 to Rs. 13·83 crores in 1929-30 or an increase of Rs. 102 lakhs. Against this the value of imported materials shows a decrease of Rs. 59 lakhs.

Heading.	VALUE OF IMPORTED MATERIALS.			Value of indigenous materials.	Total purchases **1929-30.**	Total purchases 1928-29.
	Purchased direct.	Purchased through Agents in India.	Total imported materials.			
	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.	Rs. crores.
Rolling-stock	6·05	1·23	7·28	1·63	**8·91**	5·25
Tools and stores	0·55	3·52	4·07	3·07	**7·14**	6·53
Permanent-way	0·47	0·19	0·66	4·89	**5·55**	7·00
Electric plant	1·22	0·90	2·12	0·04	**2·16**	3·64
Building and station materials and fencing	0·11	0·29	0·40	0·17	**0·57**	0·72
Bridge work	0·28	0·16	0·44	0·09	**0·53**	0·96
Workshop machinery	0·40	0·26	0·66	...	**0·66**	0·71
Engineer's plant	0·23	0·16	0·39	0·05	**0·44**	0·39
Other materials*	...	0·21	0·21	3·89	**4·10**	4·43
TOTAL .	9·31	6·92	16·23	13·83	**30·06**	29·63

* Other materials consist of coal and coke, stone, bricks, lime and ballast, etc.

78. Purchase of stores by railways through the Indian Stores Department.—The following figures show the extent to which railways have availed themselves of the services of the Indian Stores Department during the last two years.

(In thousands of rupees.)

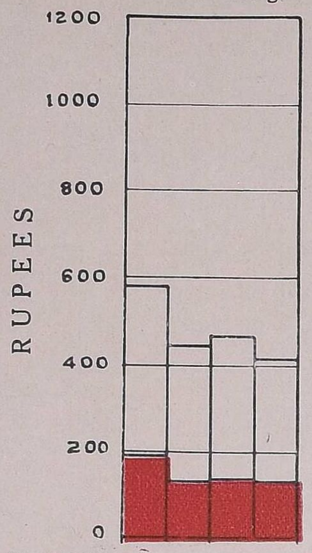
	1928-29.	**1929-30.**
1. Textiles	20,45	**41,17**
2. Cement	5,73	**16,53**
3. Creosote	25	...
4. Lubricating and other oils and greases	46,27	**57,44**
5. Paints and varnishes	11,30	**17,35**
6. Electric fans, lamps and other electrical stores	6,03	**8,69**
7. Plant and machinery	6,18	**1**
8. Water supply materials	2,63	**2,11**
9. Structural steel work including bridge girders	96	**48**
10. Soaps	56	**53**
11. Hardware	1,39	**2,81**
12. Miscellaneous	2,71	**3,33**
TOTAL	1,03,96	**1,50,45**

79. Expenditure on the fabrication and manufacture of stores in India.—The statement in paragraph 77, showing the value of stores purchased under principal headings, does not take into account the very large expenditure incurred by the railways themselves on fabrication and manufacture, nor the cost of large engineering works carried out '*in situ*'. The following statement shows the approximate expenditure on the fabrication of purchased stores, separate figures being given in the case of stores imported and stores of Indian manufacture or of indigenous origin. These figures are exclusive of the value of the stores used in the fabrication and manufacture or in the engineering works.

	Cost of fabrication and manufacture of stores imported direct or of imported stores purchased in India.	Cost of fabrication and manufacture of stores of Indian manufacture or of indigenous origin.
	(In thousands of rupees.)	
1. Construction of Locomotives	19,22	4,25
2. Construction of Boilers	3,51	55
3. Construction of coaching stock including underframes	64,84	55,38
4. Construction of Goods stock including underframes	41,84	16,52
5. Construction of spare parts of Locomotives	37,55	15,19
6. Construction of spare parts of Coaching and Goods stock	27,65	19,33
7. Construction of other Stores	90,36	26,80
8. Work done for other Departments, *i.e.*, departments other than that supervising the workshops	1,05,34	38,30
9. Engineer's plant	11,32	87
10. Permanent-way	9,19	27,12
11. Bridge work	6,42	61
12. Structural or other Engineering works.	13,16	9,61
TOTAL	4,30,40	2,14,53

(5)

Broad Gauge



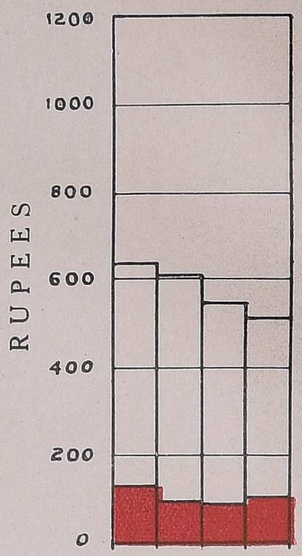
YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Goods Vehicles

Cost of maintenance and operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles

(6)

Metre Gauge



YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

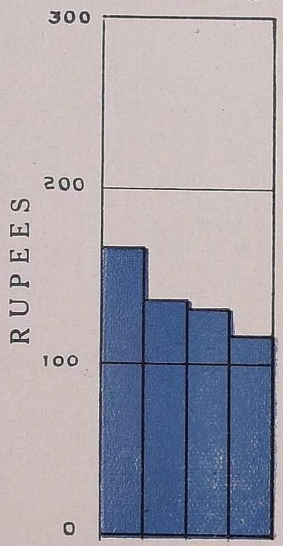
Goods Vehicles

Cost of maintenance and operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles

Running repairs shown in Red.
Workshop repairs shown in White.
Operating expenses shown in Blue.

(7)

Broad Gauge



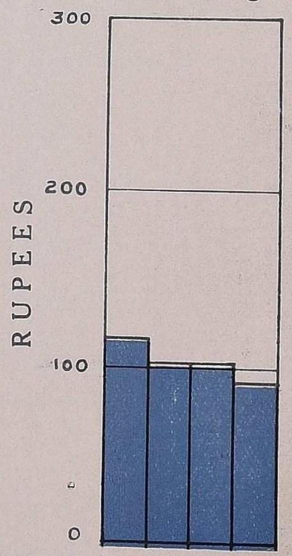
YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Operating Expenses

Cost of maintenance and operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles

(8)

Metre Gauge



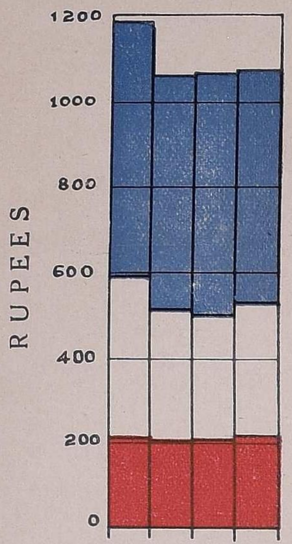
YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Operating Expenses

Cost of maintenance and operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles

(1)

Broad Gauge

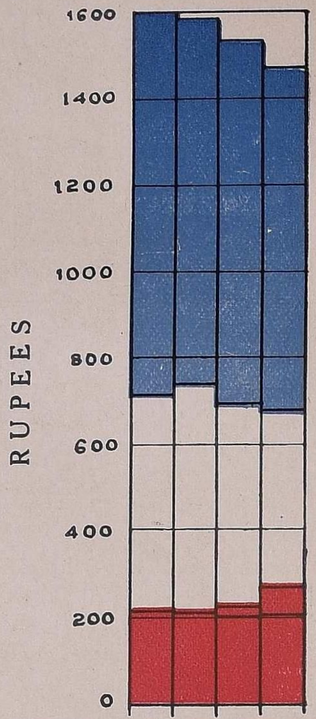


YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Cost of maintenance and supply of Loco. Power per 1,000 Gross Ton Miles

(2)

Metre Gauge



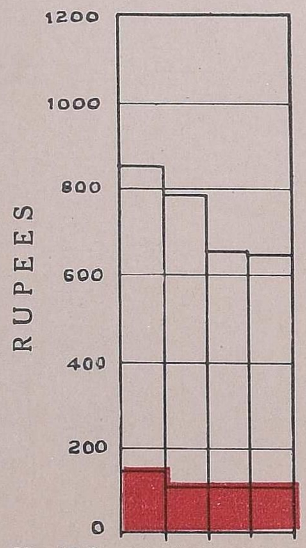
YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Cost of maintenance and supply of Loco. Power per 1,000 Gross Ton Miles

Running repairs shown in Red
Workshop repairs shown in White.
Operating expenses shown in Blue.

(3)

Broad Gauge

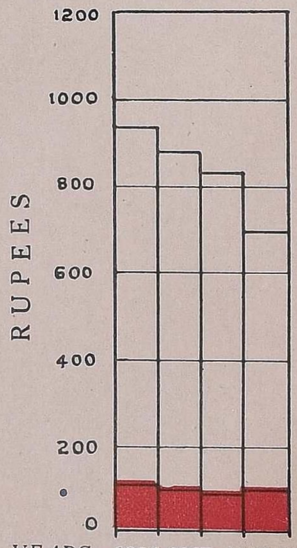


YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Coaching Vehicles
Cost of maintenance and operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles

(4)

Metre Gauge



YEARS—1926-1927, 1928-1929
1927-1928, 1929-1930

Coaching Vehicles
Cost of maintenance and operation of Carriage and Wagon Stock per 1,000 Gross Ton Miles

W. O. No. 2303—1,350—1-12-30.

The cost of structural and other engineering works carried out ' *in situ* ' was—

	(In thousands of rupees.)
Bridge work	1,45,93
Structural and other Engineering works	4,49,98
TOTAL .	5,95,91

80. Cost of maintenance and supply of locomotive power and cost of maintenance and operation of carriage and wagon stock.—In graphical form opposite the results achieved during the year under review and the 3 previous years in regard to the cost of maintenance and supply of locomotive power (under the 3 major heads) and also of the cost of maintenance and operation of carriage and wagon stock, per 1,000 gross ton miles for both broad and metre gauges of the class I railways in India, are reproduced for general information.

Running of repairs shown in red.
Workshop repairs shown in white.
Operating expenses shown in blue.

CHAPTER VI.

STAFF.

81. Number of staff.—The total number of employees on all Indian Railways and in the office of the Railway Board and other offices subordinate thereto (excluding staff employed on construction) at the end of the year 1929-30 was 819,058 as compared with 808,433 at the end of 1928-29. The increase in route mileage during the same period was 774 miles. The following table shows the number of employees by communities on the 31st March 1929 and 1930. A similar statement showing details by railways is given as Appendix C of Volume II of the Report by the Railway Board on Indian Railways for 1929-30.

Date.	Europeans.	Statutory Indians.					Grand Total.
		Hindus.	Muslims.	Anglo-Indians.	Other classes.	Total.	
31st March 1929 .	4,998*	576,843*	178,445*	14,459*	33,688*	803,435*	808,433
31st March 1930 .	**4,975**	**580,282**	**182,347**	**14,692**	**36,762**	**814,083**	**819,058**

82. Cost of staff.—The following statement shows the number and cost of all staff, superior and subordinate (including labourers), permanent and temporary, open line and construction, employed on Class I Railways during the years 1928-29 and 1929-30. Contractors' labour is not included.

Railway systems.	1928-29. Number of staff on 31st March 1929.		Cost of staff.	1929-30. Number of staff on 31st March 1930.		Cost of staff.
	Open line.	Construction.	Rs.	Open line.	Construction.	Rs.
Assam Bengal	15,484	2,485	73,15,819*	**16,297**	**1,129**	**76,95,894**
Bengal and North-Western . .	27,519	45	74,61,558*	**28,127**	**156**	**77,76,306**
Bengal Nagpur	72,683	1,257	3,14,83,896	**72,299**	**1,156**	**3,39,78,926**
Bombay, Baroda and Central India	72,628	1,356	4,49,84,780	**75,095**	**1,650**	**4,61,26,488**
Burma	27,377*	1,223	1,71,52,083	**28,304**	**675**	**1,66,81,835**
Eastern Bengal	57,483	2,048	2,68,46,704	**54,791**	**1,950**	**2,68,15,157**
East Indian	148,534	6,869	7,10,53,704	**150,283**	**3,364**	**7,13,23,453**
Great Indian Peninsula . .	116,773	756	5,92,23,583	**112,927**	**84**	**6,11,83,780**
Jodhpur	7,387	383	27,03,502	**7,965**	**426**	**27,51,791**
Madras and Southern Mahratta .	52,869*	2,536*	2,59,18,507*	**53,915**	**2,028**	**2,53,64,153**
Nizam's Guaranteed State . .	15,320	587	58,23,763	**15,972**	**134**	**65,28,097**
North Western	118,108*	4,731*	6,95,02,961	**123,757**	**1,819**	**6,92,13,000**
Rohilkund and Kumaon . .	6,018	...	17,27,080	**6,187**	...	**17,15,103**
South Indian	36,332	928	2,19,41,928	**38,800**	**807**	**1,96,91,613**
Total .	774,515*	25,204*	39,31,39,868*	**784,719**	**15,378**	**39,68,45,596**

Note 1.—The figures in asterisks represent revised figures due generally to minor changes made by the railway administrations in the figures published last year. On the Assam Bengal Railway alone an appreciable increase (Rs. 3·68 lakhs) has been made in the cost of staff for 1928-29, due to the cost of certain classes of shed and carriage and wagon staff having been previously omitted by oversight.

Note 2.—The figures of cost include the salaries and wages of staff, bonus contributions to the provident funds, gratuities, overtime allowances, and all other allowances which are of the nature of extra pay and which are not granted to meet some definite expense incurred in the performance of duty, such as travelling allowances.

83. It will be seen that apart from the Burma, Eastern Bengal, Madras and Southern Mahratta, North Western, Rohilkund and Kumaon and South Indian Railways, the remaining railways show an increase in expenditure as compared with the last year. The decrease on the railways named is chiefly due to reduction in establishment, consequent upon the completion or closing down of construction and large open line works.

The increase on other railways is partly due to normal causes, *e.g.*, increments to staff, and partly to the entertainment of additional staff required to give effect to the provisions of the Washington and Geneva Conventions. Other contributory causes on the Bengal Nagpur and His Exalted Highness the Nizam's Guaranteed State Railways, where the increase exceeds 5 per cent. are as stated below :—

Bengal Nagpur Railway.—Gratuities to a large number of men retired.

His Exalted Highness the Nizam's Guaranteed State Railways.—Appointment of additional open line staff consequent on the extension of the lines, a larger programme of construction and open line capital works, more repairs of rolling stock carried out during the year as compared with the previous year and inclusion of the bonus relating to the half-year ended March 1930 in the accounts of the year 1929-30, instead of in those for the ensuing year, owing to the transfer of the railway to His Exalted Highness's Government.

84. Recruitment.—State-managed Railways—*Indianisation.*—The policy of the Government of India with regard to Indianisation of the superior services is summed up in the recommendation of the Lee Commission which was accepted by Government, *viz.*, that, " the extension of the existing training facilities should be pressed forward as expeditiously as possible in order that recruitment in India may be advanced as soon as practicable up to 75 per cent. of the total number of vacancies in the Railway Department as a whole, the remaining 25 per cent. being recruited in England." This policy has been worked to in the past only in the Civil Engineering and Transportation (Traffic) and Commercial branches. Until this year, recruitment for the other principal branches, namely, the Transportation (Power) and Mechanical Engineering Departments, was practically confined to persons of non-Asiatic domicile recruited by the Secretary of State, since it was found difficult to obtain men possessing all the requisite qualifications in India. A scheme for the training of apprentices has been in force since 1927 but the period of training being six years, it will not provide fully qualified officers until 1933.

In the meantime, however, the Board have taken special measures during the year under review to encourage the recruitment of Indians for these branches. Thus there were, as the Indian share of direct recruitment, 6 vacancies in the Transportation (Power) and 2 in the Mechanical Engineering Departments and instead of asking the Secretary of State to recruit them all in accordance with the usual rules of recruitment, it was decided, with a view to hastening the progress of Indianisation in these two departments, to test the market by inviting applications, both in India and in the United Kingdom, specifying qualifications which represent the minimum which it is considered can be accepted with an expectation of obtaining persons likely to develop into efficient officers. The age limit was also relaxed so that the field of selection may not be limited. The Secretary of State and the Public Service Commission were asked simultaneously to advertise for applications from suitable candidates of Indian domicile with the result that four Indians have been appointed to the Transportation (Power) Department and three to the Mechanical Engineering Department. No other Indian was recommended and though there were only two vacancies in the Mechanical Engineering branch, the Board went so far as to appoint a third Indian as a

special probationer in anticipation of the occurrence of a vacancy in that branch. It is proposed to continue similar arrangements until 1933, when it is hoped that the scheme started in 1927 for the training of apprentices will bear fruit and provide the requisite number of Indians for these departments.

85. *Minority communities.*—Care is also taken as far as practicable, to avoid the preponderance of any particular community in the services and the rules of recruitment for the superior services provide that of the total number of vacancies to be filled in India by the Public Service Commission, two-thirds shall be filled in order of merit and the remaining one-third by nomination, to redress marked communal inequalities, from among other qualified candidates.

86. *Statistics.*—The following table gives a summary of the recruitment made for gazetted ranks on State-managed railways during the year under review: Part I relates to permanent appointments and Part II includes both permanent and temporary appointments.

PART I.

Statement showing the number of **permanent** *appointments created and vacancies which occurred among officers of gazetted rank on State-managed Railways during the year 1929-30, and how they were filled.*

Department.	No. of new appointments created during the year.	No. of appointments abolished during the year.	No. of vacancies which occurred during the year.	No. of vacancies which occurred in previous years not filled in these years remaining to be filled.	No. of net vacancies to be filled.	No. of vacancies not filled up during the year.	No. of vacancies actually filled.	Filled by: Europeans.	Filled by: Statutory Indians: Hindus.	Statutory Indians: Muslims.	Statutory Indians: Anglo-Indians and Domiciled Europeans.	Statutory Indians: Other classes.	Statutory Indians: Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Agency	...	...	1	...	1	1	...	...	...	...	...	...	...
2. Engineering	...	...	16	4	20	6	14	4	6	1	1	2	10
3. Transportation and Commercial (Traffic).	...	...	9	15	24	14	10	2	6	2	...	...	8
4. Transportation (Power) and Mechanical Engineering.	...	..	7	5	12	1	11	4	5	...	2	...	7
5. Stores Department	...	...	2	1	3	3	...	...	...	...	...	...	...
6. Other Departments	..	...	6	...	6	...	6	2	2	1	...	1	4
7. Total 1929-30	...	...	41	25	66	25	41	12	19	4	3	3	29
7. Total 1928-29	24	3	50	17	88	25	63	19	29	4	8	3	44
8. Percentage of Europeans to number of vacancies filled. 1929-30	29·3												
8. Percentage of Europeans to number of vacancies filled. 1928-29	30·0												
9. Percentage of Statutory Indians to number of vacancies filled. 1929-30	70·7												
9. Percentage of Statutory Indians to number of vacancies filled. 1928-29	70·0												

PART II

*Statement showing the **total** number of appointments created and vacancies which occurred among officers of gazetted rank on State Railways during the year 1929-30, and how they were filled.*

Department.	No. of new appointments created during the year.	No. of appointments abolished during the year.	No. of vacancies which occurred during the year.	No. of vacancies which occurred in previous years not filled in these years remaining to be filled.	No. of net vacancies to be filled.	No. of vacancies not filled up during the year.	No. of vacancies actually filled.	Filled by					
								Europeans.	Statutory Indians.				
									Hindus.	Muslims.	Anglo-Indians and Domiciled Europeans.	Other classes.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Agency	...	...	1	...	1	1	...	...	..	...	...	...	...
2. Engineering	...	...	17	15	32	18	14	4	6	1	1	2	10
3. Transportation and Commercial (Traffic).	...	...	9	15	24	14	10	2	6	2	...	...	8
4. Transportation (Power) and Mechanical Engineering.	1	...	11	18	30	13	17	8	5	1	3	...	9
5. Stores Department	1	...	2	1	4	4	...	...	...	...	...	...	...
6. Other Departments	...	..	6	3	9	2	7	2	3	1	...	1	5
7. Total — 1929-30	2	...	46	52	100	52	48	16	20	5	4	3	32
7. Total — 1928-29	50	3	50	25	122	52	70	26	28	4	9	3	44
8. Percentage of Europeans to number of vacancies filled. — 1929-30	33·3												
8. Percentage of Europeans to number of vacancies filled. — 1928-29	37·0												
9. Percentage of Statutory Indians to number of vacancies filled. — 1929-30	66·7												
9. Percentage of Statutory Indians to number of vacancies filled. — 1928-29	63·0												

NOTE 1.—Since the primary object of these statements is to show the number of vacancies and how they were filled, an officer, whose recruitment was arranged for during a particular year, has been regarded as having been appointed during that year, even if he happened to join during the ensuing year.

NOTE 2.—Figures relating to the number of vacancies not filled up are brought forward from year to year and opportunity will be taken to correct them next year when the revised cadres will have been introduced.

NOTE 3.—Figures relating to recruitment for 1928-29 as shown above exceed those shown in the last report by one to include a European officer recruited against the year 1928-29, who had been previously omitted.

87. It will be noticed from these statements that during the year under review the total number of permanent appointments made in the gazetted ranks on State-managed railways was 41, of which 12 went to Europeans and 29 to Indians, of whom 19 were Hindus, 4 Muslims, 3 Anglo-Indians and 3 of other communities. The total number of vacancies filled, whether permanent or temporary, was 48, of which 16 went to Europeans and 32 to Indians, of whom 20 were Hindus, 5 Muslims, 4 Anglo-Indians and 3 of other communities. The ratio of Indian to European recruitment was 70·7 to 29·3 in respect of permanent appointments and 66·7 to 33·3 in respect of all appointments, whether permanent or temporary. The percentage of Indian recruitment in the various departments was :—

Department.	Permanent appointments.	Permanent and temporary appointments.
	Per cent.	Per cent.
Engineering	71	71
Transportation and Commercial (Traffic)	80	80
Transportation (Power) and Mechanical Engineering	64	53
Other departments	67	71

Among Indian recruits the proportionate recruitment from each community was as shown below :—

	Permanent vacancies.	Total vacancies
	Per cent	Per cent.
Hindus	65·6	62·5
Muslims	13·8	15·6
Anglo-Indians	10·3	12·5
Other classes	10·3	9·4

The figures in the statements do not include 12 apprentices, all of Asiatic domicile, recruited in India for the Transportation (Power) and Mechanical Departments during the year under review. The communities to which these apprentices belong are as follows :—

Hindus . . .	6	Anglo-Indians . .	3
Muslims . . .	2	Other communities .	1

Nor do the figures include persons promoted from the Provincial Engineering and Local Traffic Services to the Indian Railway Service of Engineers and the Transportation (Traffic) and Commercial Branch of the Superior Revenue Establishment respectively. Taking into account such promotions, the ratio of Indian recruitment for the superior services rises to 75·5 per cent. in respect of permanent appointments. It will be seen, therefore, that by adopting the special measures described in paragraph 84 and exploring all other avenues, the Government of India have succeeded in advancing the recruitment of Indians up to 75 per cent. of the total number of vacancies on State-managed railways, as recommended by the Lee Commission.

88. Company-managed Railways.—The progress made in this direction by Company-managed Railways falls short of that on State-managed Railways. The Companies have agreed to fall in line with the policy of Government as indicated in paragraph 84 but have not yet been able, owing to various reasons, to advance Indian recruitment up to 75 per cent. of the total vacancies. The South Indian Railway alone has so far been able to reach this percentage. The whole question has been exhaustively reviewed during the current year and the measures which it is proposed to take to accelerate the rate of recruitment of Indians will be stated in the next report.

The following table gives a summary of the recruitment made for the superior services on Company-managed Railways during the year under review : Part I relates to permanent appointments and Part II includes both permanent and temporary appointments. A detailed statement by individual railways will be found in Appendix G of this report.

PART I.

Statement showing the number of ***permanent*** *appointments created and vacancies which occurred among officers on (Class I) Company-managed Railways, excluding His Exalted Highness the Nizam's Guaranteed State and Jodhpur Railways, and how they were filled during 1929-30.*

Item.	No. of new appointments created during the year.	No. of appointments abolished during the year.	No. of vacancies which occurred during the year.	No. of vacancies which occurred in previous years not filled in these years remaining to be filled.	No. of net vacancies to be filled.	No. of vacancies not filled up during the year.	No. of vacancies actually filled.	Filled by: Europeans.	Filled by: Statutory Indians: Hindus.	Muslims.	Anglo-Indians and Domiciled Europeans.	Other classes.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Agency	1	...	1	3	5	2	3	1	1	...	1	...	2
2. Accounts	2	...	3	1	6	...	6	1	4	...	1	...	5
3. Engineering . . .	4	2	11	14	27	11	16	10	3	...	2	1	6
4. Transportation and Commercial.	2	3	7	11	17	4	13	3	9	...	...	1	10
5. Mechanical . . .	4	1	5	5	13	4	9	7	2	...	...	...	2
6. Stores Department . .	...	...	2	2	4	...	4	3	1	...	...	...	1
7. Other Departments .	...	...	7	2	9	1	8	5	2	...	...	1	3
8. Total . 1929-30	13	6	36	38	81	22	59	30	22	...	4	3	29
8. Total . 1928-29 *	22	6	48	33	97	39	58	30	15	3	7	3	28
9. Percentage of Europeans to number of vacancies filled. 1929-30	50·8												
9. Percentage of Europeans to number of vacancies filled. 1928-29 *	51·7												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	49·2												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29 *	48·3												

* These totals include Burma Railways.

PART II.

Statement showing the **total** *number of appointments created and vacancies which occurred among officers on (Class I) Company-managed Railways, excluding His Exalted Highness the Nizam's Guaranteed State and Jodhpur Railways, and how they were filled during 1929-30.*

Item.	No. of new appointments created during the year	No. of appointments abolished during the year.	No. of vacancies which occurred during the year.	No. of vacancies which occurred in previous years not filled in these years remaining to be filled.	No. of net vacancies to be filled.	No. of vacancies not filled up during the year.	No. of vacancies actually filled.	Filled by: Europeans.	Filled by: Statutory Indians: Hindus.	Filled by: Statutory Indians: Muslims.	Filled by: Statutory Indians: Anglo-Indians and Domiciled Europeans.	Filled by: Statutory Indians: Other classes.	Filled by: Statutory Indians: Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Agency	1	...	2	3	6	2	4	2	1	...	1	...	2
2. Accounts	1	1	3	2	5	1	4	1	2	...	1	...	3
3. Engineering	9	16	19	19	31	17	14	4	7	1	1	1	10
4. Transportation and Commercial.	3	3	7	13	20	5	15	3	7	1	3	1	12
5. Mechanical	6	2	6	5	15	4	11	7	3	...	...	1	4
6. Stores	...	...	2	2	4	1	3	2	1	...	...	...	1
7. Other Departments	1	...	8	4	13	3	10	5	3	...	1	1	5
8. Total 1929-30	21	22	47	48	94	33	61	24	24	2	7	4	37
8. Total 1928-29 †	38*	34	74*	45*	123*	56*	67*	33*	19*	3	9*	3*	34*
9. Percentage of Europeans to number of vacancies filled. 1929-30	39·3												
9. Percentage of Europeans to number of vacancies filled. 1928-29†	49·3												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	60·7												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29†	50·7												

* Revised figures. † These figures include Burma Railways.

89. It will be observed that during the year under review the total number of permanent appointments made in the superior service on Company-managed railways was 59, of which 30 went to Europeans and 29 to Indians, of whom 22 were Hindus, 4 Anglo-Indians and 3 of other communities. The total number of vacancies filled, whether permanent or temporary, was 61, of which 24 went to Europeans and 37 to Indians, of whom 24 were Hindus, 2 Muslims, 7 Anglo-Indians and 4 of other communities. The ratio of Indian to European recruitment was 49 to 51 in respect of permanent appointments and 61 to 39 in respect of all appointments, whether permanent or temporary. The percentage of Indian recruitment in the various departments was :—

Department.	Permanent appointments.	Permanent and temporary appointments.
	Per cent.	Per cent.
Engineering	38	71
Transportation (Traffic) and Commercial	77	80
Transportation (Power) and Mechanical Engineering	22	36

Among Indian recruits the proportionate recruitment from each community was as shown below :—

	Permanent vacancies.	Total vacancies.
	Per cent.	Per cent.
Hindus	76	65
Muslims	...	5
Anglo-Indians	14	19
Other classes	10	11

90. Review of the progress made since 1925.—The following statement will throw further light on the progress made in Indianisation and in the recruitment of minority communities both on State-managed and Company-managed Railways during the last year and since 1925, as reflected in the relative strength of Europeans and Indians belonging to the various communities: Part I relates to superior staff and Part II to subordinate staff on scales of pay rising to Rs. 250 and over.

PART I.

Statement of gazetted officers on State-managed Railways and Officers of corresponding rank on Company-managed (Class I) Railways (excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways) on the 1st April 1925, 1st April 1929 and 1st April 1930.

Name of the Railway.	1st April 1925. Euro-peans.	1st April 1925. Statutory Indians. Hindus.	Muslims.	*Anglo-Indians.	Other Com-munities.	Total.	Total number on the Railway columns 2 and 7.	1st April 1929. Euro-peans.	1st April 1929. Statutory Indians. Hindus.	Muslims.	Anglo-Indians.	Other Com-munities.	Total.	Total number on the Railway column 9 and 14.	1st April 1930. Euro-peans.	1st April 1930. Statutory Indians. Hindus.	Muslims.	Anglo-Indians.	Other Com-munities.	Total.	Total number on the Railway columns 16 and 21.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
State-managed Railways.																					
Burma	90	3	..	..	12	15	105	104	11	1	13	8	33	137	101	8	1	11	7	27	128
E. B.	79	31	3	..	12	46	125	81	36	7	14	5	62	143	76	39	7	11	4	61	137
E. I.	227	49	12	..	26	87	314	211	65	16	48	8	137	348	199	74	14	43	8	139	338
G. I. P.	175	18	5	..	23	46	221	191	30	5	10	9	54	245	186	31	6	11	11	59	245
N. W.	192	60	13	..	28	101	293	181	90	23	21	14	148	329	170	92	20	15	17	144	314
Railway Board and Miscellaneous Offices	59	8	3	..	14	25	84	75	19	4	7	2	32	107	68	19	7	10	4	40	108
TOTAL	822	169	36	..	115	320	1,142	843	251	56	113	46	466	1,309	800	263	55	101	51	470	1,270
Company-managed Railways.																					
A. B.	52	6	1	..	2	9	61	49	11	5	10	1	27	76	46	16	4	11	1	32	78
B. N.	170	27	5	..	19	51	221	154	37	5	18	2	62	216	153	38	6	20	2	66	219
B. & N. W.	55	3	1	..	..	4	59	63	6	..	2	..	8	71	63	6	1	2	..	9	72
B., B. & C. I.	159	14	..	..	21	35	194	139	24	3	13	13	53	192	137	26	2	10	14	52	189
M. & S. M.	122	15	1	..	6	22	144	117	25	..	8	3	36	153	115	31	..	6	5	42	157
R. & K.	12	1	..	..	..	1	13	11	2	1	..	..	3	14	10	2	1	..	..	3	13
S. I.	93	17	1	..	3	21	114	94	43	3	5	4	55	149	91	46	2	6	4	58	149
TOTAL	663	83	9	..	51	143	806	627	148	17	56	23	244	871	615	165	16	55	26	262	877
GRAND TOTAL	1,485	252	45	..	166	463	1,948	1,470	399	73	169	69	710	2,180	1,415	428	71	156	77	732	2,147

Statement showing the percentages of the relative strength of Europeans and Indians of various communities.

			1925	1929	1930
Europeans	..	State-managed Railways.	71·98	64·40	**62·99**
		Company-managed Railways.	82·26	71·99	**70·13**
		TOTAL	76·23	67·43	**65·91**
Statutory Indians	Hindus	State-managed Railways.	14·80	19·18	**20·71**
		Company-managed Railways.	10·30	16·99	**18·81**
		TOTAL	12·94	18·30	**19·93**
	Muslims	State-managed Railways.	3·15	4·28	**4·33**
		Company-managed Railways.	1·12	1·95	**1·83**
		TOTAL	2·31	3·35	**3·31**
Statutory Indians —*contd.*	Anglo-Indians	State-managed Railways.	*	8·63	**7·95**
		Company-managed Railways.	*	6·43	**6·27**
		TOTAL	*	7·75	**7·27**
	Other communities	State-managed Railways.	*10·07	3·51	**4·02**
		Company-managed Railways.	6·32	2·64	**2·96**
		TOTAL	8·52	3·17	**3·58**
	TOTAL	State-managed Railways.	28·02	35·60	**37·01**
		Company-managed Railways.	17·74	28·01	**29·87**
		TOTAL	23·77	32·57	**34·09**

* Anglo-Indians included in other communities in 1925.

PART II.

Statement of subordinates on scales of pay rising to Rs. 250 per mensem and over on Class I Railways (excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways) on the 1st April 1925, 1st April 1929 and 1st April 1930.

Name of the Railway.	1st April 1925.							1st April 1929.							1st April 1930.						
		Statutory Indians.							Statutory Indians.							Statutory Indians.					
	Europeans.	Hindus.	Muslims.	†Anglo-Indians.	†Other Classes.	Total.	Grand Total (columns 2 and 7).	Europeans.	Hindus.	Muslims.	Anglo-Indians.	Other Classes.	Total.	Grand Total (columns 9 and 14).	Europeans.	Hindus.	Muslims.	Anglo-Indians.	Other Classes.	Total.	Grand Total (columns 16 and 21).
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
State-managed Railways.																					
Burma	28	83	9	..	198	290	318	24	113	11	261	58	443	467	23	113	10	271	59	453	476
E. B.	143	106	5	..	163	274	417	106	158	9	199	8	374	480	103	170	17	184	10	381	484
E. I.	859	300	25	..	789	1,114	1,973	615	464	52	1,020	16	1,552	2,167	612	497	53	1,014	12	1,576	2,188
G. I. P.	286	125	29	..	803	957	1,243	312	190	37	732	149	1,108	1,420	284	239	42	788	196	1,265	1,549
N. W.	401	328	123	..	378	829	1,230	388	400	182	350	147	1,079	1,467	388	391	181	364	146	1,082	1,470
Railway Board and miscellaneous offices	*	*	*	*	*	*	*	6	144	21	28	19	212	218	5	160	23	31	20	234	239
TOTAL	1,717	942	191	..	2,331	3,464	5,181	1,451	1,469	312	2,590	397	4,768	6,219	1,415	1,570	326	2,652	443	4,991	6,406
Company-managed Railways.																					
A. B.	22	23	4	..	46	73	95	23	29	4	41	7	81	104	20	30	2	40	7	79	99
B. N.	333	140	13	..	403	556	889	273	175	12	378	15	580	853	256	194	15	379	25	613	869
B. & N.-W.	31	15	2	..	59	76	107	28	16	5	60	1	82	110	27	16	6	62	1	85	112
B., B. & C. I.	155	253	25	..	506	784	939	143	286	29	382	228	925	1,068	146	299	34	390	237	960	1,106
M. & S. M. Ry.	85	31	1	..	173	205	290	82	40	1	166	16	223	305	90	51	1	177	12	241	331
R. & K.	6	5	1	..	13	19	25	6	4	1	12	1	18	24	6	4	2	12	1	19	25
S. I.	63	73	2	..	158	233	296	48	88	4	185	9	286	334	45	96	7	177	9	289	334
TOTAL	695	540	48	..	1,358	1,946	2,641	603	638	56	1,224	277	2,195	2,798	590	690	67	1,237	292	2,286	2,876
GRAND TOTAL	2,412	1,482	239	..	3,689	5,410	7,822	2,054	2,107	368	3,814	674	6,963	9,017	2,005	2,260	393	3,889	735	7,277	9,282

Statement showing the percentages of the relative strength of Europeans and Indians of various Communities.

			1925.	1929.	1930.
Europeans		State-managed Railways.	33·14	23·33	**22·09**
		Company-managed Railways.	26·32	21·56	**20·52**
		TOTAL	30·84	22·78	**21·60**
Indians	Hindus	State-managed Railways.	18·18	23·62	**24·51**
		Company-managed Railways.	20·44	22·80	**23·99**
		TOTAL	18·95	23·37	**24·35**
	Muslims	State-managed Railways.	3·69	5·02	**5·09**
		Company-managed Railways.	1·82	2·00	**2·33**
		TOTAL	3·05	4·08	**4·23**
Indians—*contd.*	Anglo-Indians	State-managed Railways.	†	41·65	**41·40**
		Company-managed Railways.	†	43·74	**43·01**
		TOTAL	†	42·30	**41·90**
	Other Communities	State-managed Railways.	44·99	6·38	**6·91**
		Company-managed Railways.	51·42	9·90	**10·15**
		TOTAL	47·16	7·47	**7·92**
	Total	State-managed Railways.	66·86	76·67	**77·91**
		Company-managed Railways.	73·68	78·44	**79·48**
		TOTAL	69·16	77·22	**78·40**

* Not available. † Anglo-Indians included in "Other Communities" in 1925.

91. It will be observed that the Indian element in the superior services has risen from 28·02 per cent. on State-managed and 17·74 per cent. on Company-managed Railways in 1925 to 37·01 per cent. on State-managed and 29·87 per cent. on Company-managed Railways in 1930 by a corresponding reduction in the European element. Among the Indians the percentage increase by communities in 1930 as compared with 1925 is shown below :—

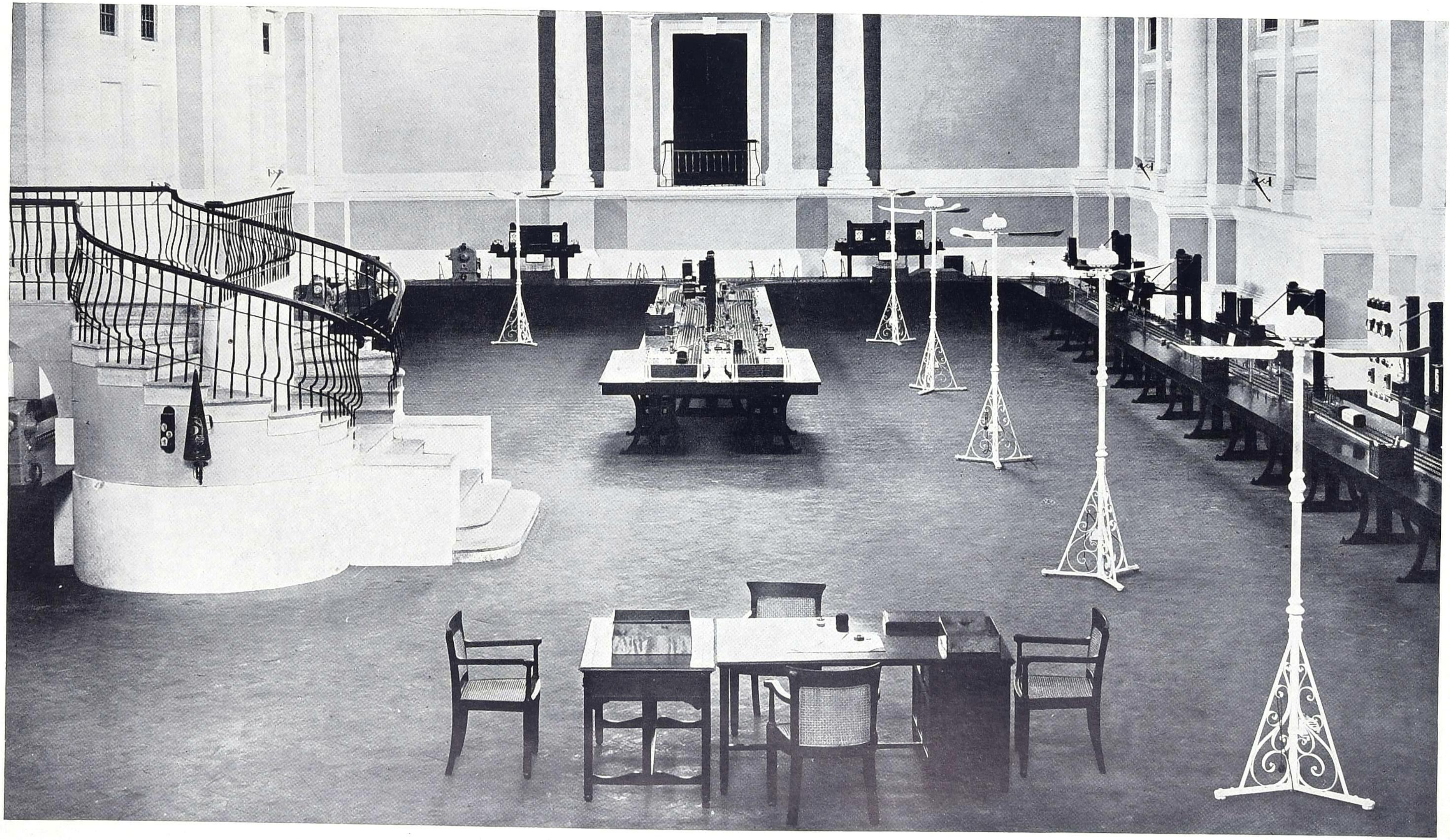
	State-managed.		Company-managed.	
	Percentages.		Percentages.	
	1925.	1930.	1925.	1930.
Hindus	14·80	20·71	10·30	18·81
Muslims	3·15	4·33	1·12	1·83
Anglo-Indians and others	10·07	11·97	6·32	9·23

92. Turning to the subordinate staff, the corresponding figures are as under :—

	State-managed.		Company-managed.	
	Percentages.		Percentages.	
	1925.	1930.	1925.	1930.
Europeans	33·14	22·09	26·32	20·52
Indians—				
Hindus	18·18	24·51	20·44	23·99
Muslims	3·69	5·09	1·82	2·33
Anglo-Indians and others	44·99	48·31	51·42	53·16
Total Indians	66·86	77·91	73·68	79·48

93. Training of staff.—*Railway Staff College, Dehra Dun.*—As has been stated in paragraph 50 the Railway Staff College, Dehra Dun, started to function in January 1930 although the formal opening did not take place till after the close of the financial year.

The first course of instruction for transportation and commercial probationers began on the 6th January 1930 with sixteen students from the Burma, Eastern Bengal, East Indian, Great Indian Peninsula, North-Western, Bengal Nagpur and Madras and Southern Mahratta Railways. During the course, which lasted two months, lectures were given on the general rules for working open lines of railways in India, the theory and practice of transportation, train control, the commercial work of railways, traffic accounts, supervision of railway telegraph office work and the elementary principles of the locomotive and the vacuum brake. Fourteen out of the sixteen students passed the ensuing examination. On the 20th January 1930, a refresher course for junior officers began, which was attended by twelve officers from the Eastern Bengal, East Indian, Great Indian Peninsula, North Western and Bengal Nagpur Railways. The course of lectures to these officers, which



Transportation Model Room, Railway Staff College, Dehra Dun.

lasted six weeks, was similar to that for the probationer officers, but necessarily more advanced. Ten officers passed the ensuing examination. During the second week of March 1930 two further courses were started: one for probationer civil engineers and the other a second refresher course for junior officers. The lectures for the probationer civil engineers were on similar lines as for the transportation and commercial probationers, but instead of traffic accounts, lectures on engineering accounts were delivered.

In order to make use of the available accommodation at the college it was decided as a temporary measure to transfer the refresher courses for senior subordinates from Chandausi to Dehra Dun and two such courses were held early in 1930. The first of these courses was attended by 22 students of whom 17 passed. The second course was attended by 20 students of whom 14 passed.

The first fuel economy course originally scheduled for Chandausi was held instead at Dehra Dun in February-March 1930, 22 students attending from the Eastern Bengal, East Indian, North Western and South Indian Railways.

94. *Area schools.*—While the Railway Staff College, Dehra Dun, is primarily intended to train officers, a number of Area schools are provided for the training of subordinate staff. A brief resumé of the activities of these schools during the year under review is given below:—

School of Transportation, Chandausi.—The principal courses held during the year were refresher courses for senior subordinates of all railways and courses for assistant station masters, probationary signallers and illiterate drivers of the East Indian Railway. The temporary transfer of the senior subordinate courses to Dehra Dun, as mentioned above, has released 30 units of quarters at Chandausi which will provide the much needed extra accommodation for training East Indian Railway Staff.

Asansol training school.—Courses were held during the year for firemen, switchmen, train examiners, assistant station masters and relieving guards, the total number of students attending the school amounting to 723. It has been mentioned in previous reports that this school is much handicapped for lack of accommodation. In view of the increased capacity of Chandausi it has now been decided to curtail the activities at Asansol, utilising this school in future only for the training of switchmen, locomotive and carriage and wagon refresher courses and promotion courses.

School of Transportation, Bina.—Owing to the limited amount of hostel accommodation at Bina the work of this school is confined to refresher courses and no recruits are trained here Courses were held during the year for drivers, sub-permanent-way inspectors, time-keepers, assistant station masters and other transportation staff. The model railway has been relaid with $2\frac{1}{2}''$ gauge track and will shortly be operated electrically. Full sized working models of the automatic vacuum brake apparatus have been installed during the year.

Walton training school, Lahore.—As mentioned in paragraph 50 the year under review marks the final transfer of this school to its permanent headquarters at Kot Lakhpat near Lahore. The new school gives the North-Western Railway the most complete and up to date area school in India. The model room is equipped with a $2\frac{1}{2}''$ gauge track electrially operated consisting of both double and single line track. 16 stations and 21 signal cabins represent in miniature the various types existing on the open line. Full sized block instruments are in use and 25 students can work in the model-room at the same time.

The locomotive lecture-room is well equipped with a full range of models, including a complete set of vacuum gear fittings and a condemned engine side-cut to expose the interior fittings. To meet the needs of apprentice permanent-way inspectors, the school has been provided with various types of rails, crossings, instruments and permanent-way equipment, enabling the apprentices to obtain a thorough and practical training in the correct methods of track construction.

During the year under review 1,772 students and line staff attended the school as compared with 1,400 during the previous year. Four training courses were held in the station master's and commercial groups, one for probationary guards and one for probationary permanent-way inspectors. Twenty-nine promotion courses were held for the line staff who attended for training and refresher purposes.

95. Improvements in the service conditions of the staff.—In recognition of the growing complexity and increasing importance of labour problems, the organisation of the Railway Board was strengthened in April 1929 by the addition of a Member who deals principally with staff duties. With his assistance the Board have been able to make considerable headway with a number of schemes calculated to improve the service conditions of the staff in general and the lower paid employees in particular. These schemes cover a wide range including :—

(*a*) revision of the scales of pay of lower paid employees;

(*b*) hours of employment and periods of rest of railway servants;

(*c*) revision of leave rules;

(*d*) security of tenure;

(*e*) acceleration of payments; and

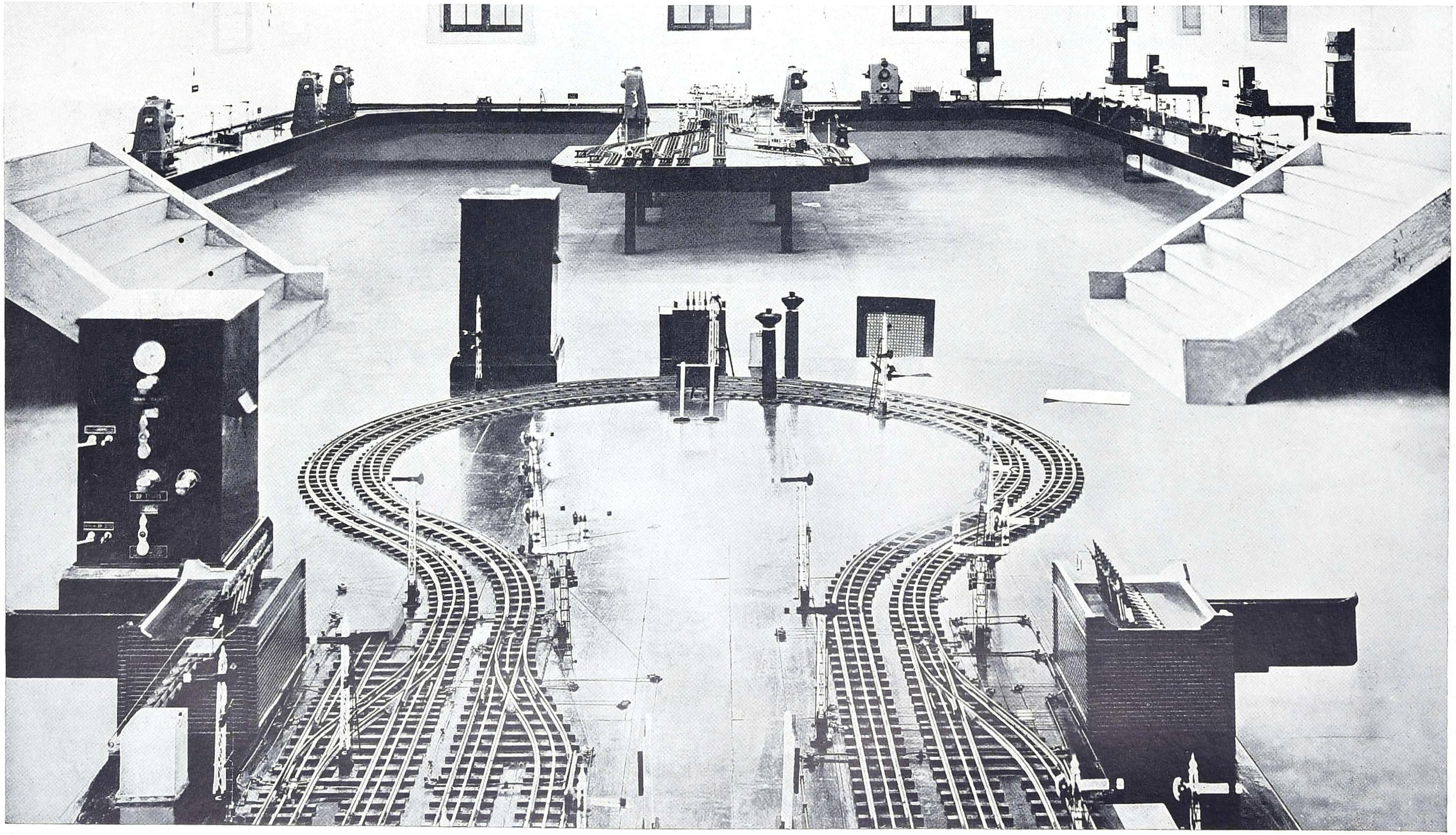
(*f*) welfare, including education co-operative credit societies, staff benefit fund and sports.

It is now proposed to make a rapid survey of the progress made under each of the heads indicated above.

96. *Revision of the scales of pay of lower paid employees.*—The question of the revision of pay of lower paid employees on railways had engaged the attention of the Railway Board and the Agents of railways since October 1928. Prior to April 1929 the investigation made was of a general nature on which it was not possible to build up a scheme of revision. One of the first tasks to which the Staff Member of the Railway Board addressed himself was to devise a practicable scheme for solving this problem. In May 1929 all the material available in the Board's office was collected and tabulated and comparative statements of wages of lower paid employees were sent to the Agents Eastern Bengal, East Indian and Bengal Nagpur Railways, who were invited in the first place to exchange information as to the present sanctioned rates for each class of employees. In June 1929 meetings were held with the Agents of these railways in Calcutta, where the principal question considered was the minimum wage, *i.e.*, the wage which should be paid to the lowest or unskilled class of labour comprising gangmen, porters, bhistees, watermen, sweepers, cleaners, gatemen, etc. A provisional scheme was then prepared for the Eastern Bengal Railway and this was generally approved by the Railway Board in the middle of February 1930. Certain details, however, had still to be worked out and the Railway Board deputed one of its officers to work out final proposals in consultation with the Agent Eastern Bengal Railway.

Simultaneously, with a view to expediting the revision of the rates of pay of the lower paid employees of the Great Indian Peninsula Railway, the Board deputed an officer in February 1930 to assist the Agent in framing proposals in this behalf. Eventually sanction was accorded to the revision of the wages of the lower paid employees both of the Eastern Bengal and Great Indian Peninsula Railways, with effect from the 1st April 1930, at an estimated recurring cost of Rs. 4,18,000 per annum on each railway. The immediate extra cost on the Great Indian Peninsula Railway was much higher, being in the vicinity of Rs. 8 lakhs per annum.

It is superfluous to enlarge on the intricacies of the questions involved in the revision of wages of lower paid employees. It is necessary in the first place to make a close investigation into the rates paid and where they call for revision, next to frame definite principles as to the method and extent of revision necessary and then to calculate and provide the extra expenditure. The progress made during the year under review has been slow but the



A portion of the Model Room, Walton Training School, Lahore.

principles having once been settled, it has been possible during the ensuing year to extend the scheme of revision to the other State-managed and certain Company-managed Railways.

97. *Hours of employment and periods of rest.*—Another big scheme which had been under investigation for many years and which has now been brought near to a final settlement relates to the application of the Washington and Geneva Conventions, prescribing respectively a 60-hour week and a weekly rest day in industrial undertakings. The application of these Conventions to Indian railways had presented all those difficulties which have been experienced in Europe and elsewhere in respect of the peculiar conditions which obtain in transport services—difficulties which are accentuated in India by certain religious and social customs. As far back as 1921 the intricacies of the problem had led the Railway Board to enlist the assistance of the Indian Railway Conference Association which framed provisional rules to give effect to the Conventions. A closer examination of these rules, however, revealed that they did not adequately fulfil the obligations imposed on Government by the ratification of the Conventions, while no steps had been taken to create a 'competent authority' for the purpose of specifying the branches of railway service to which the provisions of the conventions were to be applied. The whole question was therefore exhaustively re-examined during the year under review; the main principles to be followed in giving effect to the Conventions were settled, and as it became apparent that the scheme could not be applied without resort to legislation, a Bill to amend the Indian Railways Act, together with detailed rules, was drafted during the summer of 1929.

This measure, which was in the form of an enabling bill to authorise the Governor-General in Council to make rules regarding the hours of employment of railway servants, was introduced in the Legislative Assembly in September 1929, and was referred to a Select Committee of that House. In the meantime, the proposed rules were exhaustively discussed with the Agents of Railways at two meetings held in Simla in October 1929 with the help of a small committee to which certain specific points were referred. The Select Committee which met during the ensuing season in Delhi proposed the incorporation of many of these rules in the Bill itself and with these amendments the Bill was passed by the Legislative Assembly on the 27th February 1930 and by the Council of State on the 19th March 1930.

By the end of the year under review, the North Western Railway was well advanced in the application of the regulations and was being followed closely by the East Indian Railway. At the same time proposals were in hand to appoint officers on special duty on the remaining class I Railways, with a special officer attached to the Railway Board, in order that the amendments to the Indian Railways Act, effected by the new Act, should be applied on all these lines with as little delay as possible.

The rules, which it is hoped to issue shortly, are calculated to have far-reaching effects on railway labour conditions as far as hours of work and weekly rest are concerned. It may be explained that in specifying the branches of railway service to which the new regulations should be applied and in other directions, the Board have gone beyond the statutory obligations incurred by the ratification of the Conventions the principles of which have, on humanitarian grounds, been applied to the vast majority of railway servants. The whole scheme is estimated to cost Rs. 60 lakhs per annum on account of additional staff and Rs. 75 lakhs under capital for the provision of their quarters.

98. *Revision of leave rules.*—The question of issuing a new set of leave rules for railway employees had been under consideration for a long time. It was felt that the rules formerly in force were defective in two vital particulars. In the first place the leave rules applicable to staff taken over with the management of the East Indian, Great Indian Peninsula and Burma Railways were manifestly open to the charge of racial discrimination. Secondly it had long been recognised that the Fundamental Rules applicable to Government servants were unsuited for a commercial undertaking and

that while they were overliberal in their application to superior and subordinate staff generally, they operated to the prejudice of persons in inferior service owing to the condition that the grant of leave to such persons should impose no extra cost on the State. Moreover workshop employees and other daily rated labourers, who loom large in railway establishments, enjoyed no leave privileges beyond a limited number of holidays or casual leave in lieu.

Revised rules were accordingly issued with the Railway Department (Railway Board) Resolution No. 8373-E., dated the 20th February 1930, the chief objects being :—

(*i*) to frame a set of rules more suitable to a commercial department, which shall be simple to apply and shall obviate elaborate calculations of leave and leave-salary and the maintenance of complicated leave accounts;

(*ii*) to remove distinctions based purely on racial grounds, such as those which existed in the leave rules applicable to the staff taken over from the East Indian, Great Indian Peninsula and Burma Railways; and

(*iii*) to allow what the Board regard as a reasonable amount of leave privilege to all classes of railway servants, without making their grant dependent on the condition, formerly enforced in the case of persons in inferior service on several railways, that no extra cost shall thereby be imposed on the State.

The new rules have come into force on the State-managed railways, with effect from the 1st April 1930, but existing employees who may find the old rules more favourable have been allowed to retain them. The new rules have also been circulated to Company-managed railways and a copy forwarded to the Secretary of State with a recommendation for the modification of the Fundamental Rules for the guidance of Railway companies in the light of the rules now introduced on State-managed railways.

A common complaint made in respect of leave privileges has been that although frequently rules allow certain benefits on paper, leave is actually withheld for want of relief and on other similar grounds. Without prejudice to the general power which the railway administrations must reserve of refusing leave in the exigencies of the service, the Board, in framing the new leave rules, have been guided by the idea of allowing a reasonable annual holiday to all classes of staff and Agents of State-managed railways have accordingly been instructed to examine the adequacy of the relieving staff and to sanction the entertainment of such additional staff as may be necessary with a view to facilitate the grant of leave to the extent admissible under the rules. It is hoped that this arrangement will lead to improvement both in the health and efficiency of the staff.

The revised rules have been attacked in certain quarters as being illiberal but the Railway Board are confident that in actual working the new arrangements will confer benefits on the staff generally by the employment of adequate relieving staff and on the lower paid employees in particular by securing to them a reasonable annual holiday, in addition to casual leave, irrespective of the 'no extra cost' condition. Further as a result of the discussion with the All-India Railwaymen's Federation, the Board have under consideration some suggestions for the improvement of the privileges allowed by the new rules and it is also intended to review the position after a few years with a view to making such changes as experience may indicate as necessary.

99. *Security of Tenure.*—The attention of the Railway Board has been frequently drawn to the complaints, made in the Legislative Assembly and in representations addressed to the Government of India by Railway Unions and individual railway employees, of alleged wrongful dismissal or discharge from the railway service. The question figured prominently in the demands put forward on behalf of the All-India Railwaymen's Federation when Sir George Rainy received its deputation in May 1929 and an assurance was given on behalf of Government that the question would be considered with a view to providing suitable safeguards.

Accordingly the whole question was carefully examined during the year under review. It is obvious that the Railway Department being a commercial department, service in it must in its nature differ from service in other Government Departments and continuance of employment must be subject to the tests and conditions enforced by large commercial concerns. Accordingly the power which the railway administrations possess of discharging railway servants without assigning reasons in accordance with the terms of their agreement, or otherwise on reduction of establishment due to fluctuations of traffic, simplification of the methods of work or any other cause, or on grounds of inefficiency must be retained. It is recognised, however, that this power by its very nature imposes upon the competent authority the obligation to use it considerately and with strict justice, so that the railway servants shall feel that they can expect fair and reasonable treatment, and that a too frequent or a thoughtless recourse to it is apt to lead to a sense of instability of service which is detrimental both to the welfare of the staff and to the efficient and economical working of railways.

Acting on these principles the Railway Board have issued a set of rules regulating the discharge and dismissal of State Railway non-gazetted Government servants, which provide *inter alia*:—

(*i*) that before passing an order of discharge for inefficiency or on reduction of establishment, the competent authority should carefully consider the desirability of employing the Government servant concerned usefully in any other place or position;

(*ii*) that no employee who has completed 10 years' service should be discharged for inefficiency unless frequent specific failures of work have occurred on his part for which he has been given written warning and punished with the stoppage of increment or by reduction of pay during the last 2 years of his service;

(*iii*) that no employee should be dismissed unless his guilt has been established at a proper departmental enquiry where the employee concerned is given adequate opportunities to defend himself;

(*iv*) that no employee who has completed 10 years' service should be discharged unless a charge sheet has been presented to him and his written explanation obtained and examined; and

(*v*) that appeals against orders of discharge or dismissal, which shall ordinarily lie to the authority next above the officer passing the order, should in no case and in no sense be treated as a mere formality but should be considered with special care and, as a rule personally by the officer to whom they are addressed.

100. *Acceleration of payments.*—The question of speeding up payments has engaged the attention of railway administrations from time to time, the aim being to ensure that wages shall be paid within 14 days of the close of the month to which they relate. In June 1929, however, complaints were received by the Railway Board of delays in payments on certain divisions of the East Indian Railway and in view of the great importance which the Railway Board attach to the question of punctual payments, they placed an experienced personnel officer on special duty on the Moradabad division to examine the difficulties of the situation and submit a definite scheme to ensure prompt payments. As a result of his investigation arrangements have been made to ensure that the payments of salaries and allowances will be made within 7 and 14 days respectively of the close of the month to which they relate and similar arrangements are in the course of extension to the other divisions of the railway.

101. Welfare.—*Assistance to Railway employees for the education of their children.*—It was mentioned in the last year's report that the Railway Board had under their consideration for some time past the desirability of formulating a definite policy which could be followed by all railway administrations in regard to the assistance that should be given to railway employees for the education of their children. As the forms in which such

assistance had been given in the past had been varied, and it was necessary to obtain a clear appreciation of the existing position, Mr. C. E. W. Jones, C.I.E., an officer of the Indian Educational Service, was placed on special duty under the Railway Board in 1926 to collect and collate all the relevant facts and figures and to submit a report on the subject. It was stated that on a consideration of Mr. Jones's report, a general policy had been framed in consultation with the Central Advisory Council for Railways and had been referred to railways to prepare an estimate of the cost its adoption would involve, and to Local Governments for their views on the proposals so far as they were affected.

During the year the replies of the several railway administrations and Local Governments were received. Almost all the railways have stressed the difficulty of framing an estimate with any approach to accuracy, and the Government of India propose to place an officer of the Education Department on special duty to conduct the necessary investigation and to report on certain other outstanding points in this connection, such as, for instance, the standard of education up to which assistance should be given and other cognate matters.

The Local Governments have not received the revised policy favourably as it contemplates the assumption by them and local bodies of the management and maintenance of existing schools run by railways, and of the responsibility for establishing such schools as may be needed in future for the education of the children of railway staff. Chiefly on financial, but also on administrative and other grounds, Local Governments find themselves unable to accept the implications of the proposed policy. The Railway Board therefore propose to give effect to the policy of transferring railway schools to Local Governments or local bodies in individual cases as this becomes possible, and to modify the policy to the extent that Railways will continue for the present to maintain and manage the majority of their existing schools. No new railway schools will, however, be opened except in exceptional circumstances, such as, in new railway colonies of magnitude at a distance from large towns, where the Local Government or the local body concerned considers it impracticable to provide the requisite educational facilities.

The Railway Board propose with the concurrence of the Central Advisory Council to issue provisional rules, pending the report of the officer of the Education Department to be placed on special duty, for the grant of assistance towards the education of their children to all State Railway subordinate employees within certain limits of pay, and so as to eliminate all racial discrimination for future employees.

102. *Co-operative movement.*—The co-operative movement which has made such strides in recent years in this country finds expression on railways in co-operative credit societies and co-operative stores which have been started by the various railways with the primary object of reducing indebtedness among the employees. Co-operative credit societies have been formed on all railways with the object of advancing loans to railway employees at reasonable rates of interest. Most of them also maintain a bank to encourage habits of thrift among the employees. They are managed by a committee elected from among the shareholders. The railway generally assists them (*a*) by supplying office accommodation free of rent, (*b*) by arranging recovery of loans through salary bills, and (*c*) by granting a limited number of passes and privilege ticket orders to the employees of the society. The societies have supplied a long-felt want and are generally in a thriving condition.

Space does not permit an account of all the societies, but special mention may be made of the Jackson Co-operative Credit Society on the Bombay, Baroda and Central India Railway. There are at present over 22,000 members of this very successful society holding a paid up capital of Rs. 4,70,490 with fixed deposits of Rs. 22,08,950 and some 10,000 loans are granted during a year. These figures show the extent of benefits given to employees. In addition the society is actively extending its benefits to the workshop and lower paid staff.

103. *Staff Benefit Funds.*—In the course of the debate on the Railway Budget in the Legislative Assembly in February 1928, a suggestion was made that the fine funds on railways should be placed under the control of a committee on which the employees would be represented. Some time earlier the Railway Board had considered the desirability of evolving some definite scheme for the utilization of the accumulated balances in the fine funds in the direction of general benefit to the subordinate staff. In this connection it was recognised that the restriction of the practice of fining, in accordance with the Board's policy, would reduce the income available for the assistance hitherto given to the staff for improvement of facilities for recreation and amusement and for educational purposes, as well as for cases of exceptional hardship for which no provision existed for relief under the ordinary financial rules. The Railway Board accordingly have under consideration the question of replacing the " Fine Funds " by " Staff Benefit Funds ". The special features of the Staff Benefit Funds are that they shall receive a contribution from the revenues of the railway, in addition to the amount realised from fines and from provident fund bonuses which may be withheld under the rules from subordinate employees, and that the staff shall be associated in the management of the fund and in the control of the objects on which the amount available is expended.

104. *Railway Sports.*—The efficiency of a large public utility undertaking like a railway depends in no small measure on the physical fitness and general well-being of its employees. With this end in view most railway administrations in India are now encouraging sports and athletics among their employees. To afford an opportunity to such railway administrations as wished to avail of it an Indian Railways Athletic Association was formed in 1928, the chief object of which is to promote the welfare of railway employees by bringing them more closely together in the field of sport irrespective of all distinctions of class, race or community. Under the aegis of this association a number of inter-railway tournaments are organised and run every year.

Briefly described, Indian railways are grouped into four groups, namely the Lahore group, the Calcutta group, the Bombay group and the Madras group. Group tournaments are held annually at Lahore, Calcutta, Bombay and Madras among the railways belonging to each group. The winners of the group tournaments meet again to contest the various All-Indian Railway Tournaments. For the present the events open to the railways for competition are, football, hockey, tennis, boxing and athletic sports. The winers of these events for the year 1929-30 were :—

Football.—Great Indian Peninsula Railway.

Hockey.—Madras and Southern Mahratta Railway.

Boxing.—Great Indian Peninsula Railway.

Tennis.—East Indian Railway.

Athletic sports.—North Western Railway.

The cost incurred by railway administrations in providing necessary facilities for their men participating in these tournaments is, it is considered, more than compensated for by the *esprit de corps* which such tournaments promote and by the development of a high standard of sportsmanship for which there is a healthy rivalry between railways.

105. Elimination of Racial Discrimination.—Following the debate on " Racial distinctions in subordinate establishments " in the Legislative Assembly in February 1928, the Railway Board addressed all Class I Railways, calling attention to the definite policy of the Government of India that all traces of racial discrimination should be completely eliminated, both in the terms offered for initial employment of subordinates, and in the treatment accorded to them after engagement. Railway Administrations were also instructed to make a complete examination of the position on their lines and to take the necessary steps to remove every trace of racial distinction where such existed.

A copy of the replies received from certain of the Railways addressed was placed in the library of the Assembly in February 1929, and a copy of the replies subsequently received from the remaining railways was similarly placed in the library in August 1929.

The whole question was carefully analysed during the year under review and active steps taken to remove racial distinctions in all staff matters, including recruitment, pay and allowances, quarters, free passes, medical attendance, etc. A detailed memorandum on the subject is under preparation and when ready will be placed before the Central Advisory Council for Railways as promised by Sir George Rainy at the last Budget session of the Assembly.

106. Visit of the Royal Commission on Labour.—An event of special interest from the point of view of labour which took place during the year under review was the visit of the Royal Commission on Labour. In accordance with the questionnaire received from the Joint Secretary to the Commission, memoranda were drawn up by individual railway administrations for the Commission, depicting the conditions of labour on their respective railways, and a similar memorandum summarising the conditions in the Railway Department as a whole was prepared by the Railway Board. The preparation of these memoranda, followed by oral evidence before the Commission, afforded the much needed opportunity for taking stock of the existing situation. The results of the investigations made should be of considerable value to the railway administrations as well as to the Railway Board in the handling of staff problems and the execution of any schemes for the amelioration of their conditions of service which it may be decided to introduce, either as a result of the recommendations of the Commission or otherwise.

107. Meetings with the All-India Railwaymen's Federation.—It is the policy of the Railway Board and the Government of India to encourage unions conducted on sound trade union principles and efforts have been made during the year under review to give definite effect to this policy and to accord careful and systematic consideration to the representations made by recognised unions. What may be termed a memorable meeting in the history of trade union movement on Indian Railways took place between a deputation of the All-India Railwaymen's Federation and the Hon'ble Sir George Rainy on the 4th May 1929 at Simla. The deputation was led by Mr. V. V. Giri, General Secretary of the Federation. Mr. Giri had furnished Government some time previously with a detailed list of the demands, which was amplified prior to the date of the meeting. Assisted by nine other delegates Mr. Giri entered into further explanation of the demands and a full and free discussion on them took place. The principal subjects discussed were :—

(1) Wages,
(2) Insecurity of Service,
(3) Victimisation,
(4) Leave,
(5) Hours of work,
(6) Recognition of Unions,
(7) Fines and debits,
(8) Passes,

and each delegate spoke from his special experience and cited cases in support of his arguments. In conclusion the deputation stated that the memorandum was confined to the main grievances that the railwaymen were labouring under, and the hope was expressed that by conceding the principle of joint consultation much misunderstanding in the future relations of the railwaymen in India and of the railway administrations would be removed.

Sir George Rainy, in replying in detail to all the principal subjects which were discussed, indicated the several points in which the proposals in the memorandum furnished by the Federation went further than Government were prepared to go but assured the Federation that, subject to the

reservations he had made, all that the Federation had said would receive most careful consideration, from the Railway Board and himself. This was done in the course of the year and on the 31st March 1930 a detailed statement was supplied to the Federation, showing the action that had been taken or was contemplated on each of the separate demands put forward by them.

On the 18th February 1930 Sir George Rainy had another meeting with certain representatives of the Federation who waited on him with a view to the settlement of the Great Indian Peninsula Railway strike, and at this meeting it was agreed on behalf of Government that the Railway Board shall receive a deputation from the Federation twice a year for a free discussion of any grievances or disabilities of railway staff which the Federation may wish to represent.

108. Labour position on Indian Railways.—Railways unfortunately were not immune from labour troubles during the period under review but had to encounter three strikes in all, a large one on the Great Indian Peninsula Railway and comparatively small ones on His Exalted Highness the Nizam's Guaranteed State Railways and in two East Indian Railway collieries.

109. *Great Indian Peninsula Railway strike.*—During the latter part of 1929, the Great Indian Peninsula Railway workers alleged that they had certain grievances and in December 1929, the Great Indian Peninsula Railwaymen's Union threatened a one-day's strike on 4th February, if their demands were not granted by that date. In January 1930 the Agent invited the President and other leaders of the Union to an interview but the discussion that ensued failed to result in any agreement. On the 26th January a general meeting of the Railwaymen's Union was held at Manmad at which it was decided to call a strike on the 4th February which was to be extended further if required, as a protest against the alleged unsatisfactory reply given by the Great Indian Peninsula Railway Administration to the demands formulated by the Union. This step was taken in spite of the fact that the Agent had, in a statement to the press, previously explained that the principal demands submitted by the Union had either been dealt with or were being actively and considerably examined both by the Railway Administration and by the Government of India.

On the 4th February 1930, about 20,000 of the staff of the Great Indian Peninsula Railway struck work, of whom 13,000 were employed in the workshops at Parel, Matunga, Jhansi and Manmad and 7,000 were staff concerned with the movement of traffic. Attempts were made to involve the Great Indian Peninsula Railway Staff Union and other railway workers in a sympathetic strike, but without success. An attempt to move the adjournment of the Legislative Assembly to consider the strike fell through for want of support. The workshops at Parel and Matunga were entirely closed on account of the strike, but the train services, both through and suburban, were maintained as the drivers, guards, firemen and stokers did not join the strikers.

Suggestions were made by various bodies including the Great Indian Peninsula Railwaymen's Union and the All-India Railwaymen's Federation for the appointment of a Conciliation Board. On the 28th February 1930, Diwan Chaman Lall and Messrs. Giri and S. C. Joshi, representatives of the All-India Railwaymen's Federation, waited on the Hon'ble Sir George Rainy, Member for Commerce and Railways, and a settlement was arrived at in regard to the termination of the strike, in which Government undertook:—

(1) that the Railway Administration would not refuse to take back into service any employee merely because he went on strike and that every employee who offered to return to duty by the 15th March 1930 (subsequently extended to 17th March) would be allowed to do so provided that the post he held when he

proceeded on strike had not been permanently filled and provided also that he was not discharged for other reasons than the strike;

(2) that a waiting list would be maintained by the Agent, Great Indian Peninsula Railway, of all employees who offered to return to duty within the prescribed period and who were not able to do so by reason of the fact that the posts held by them had been permanently filled;

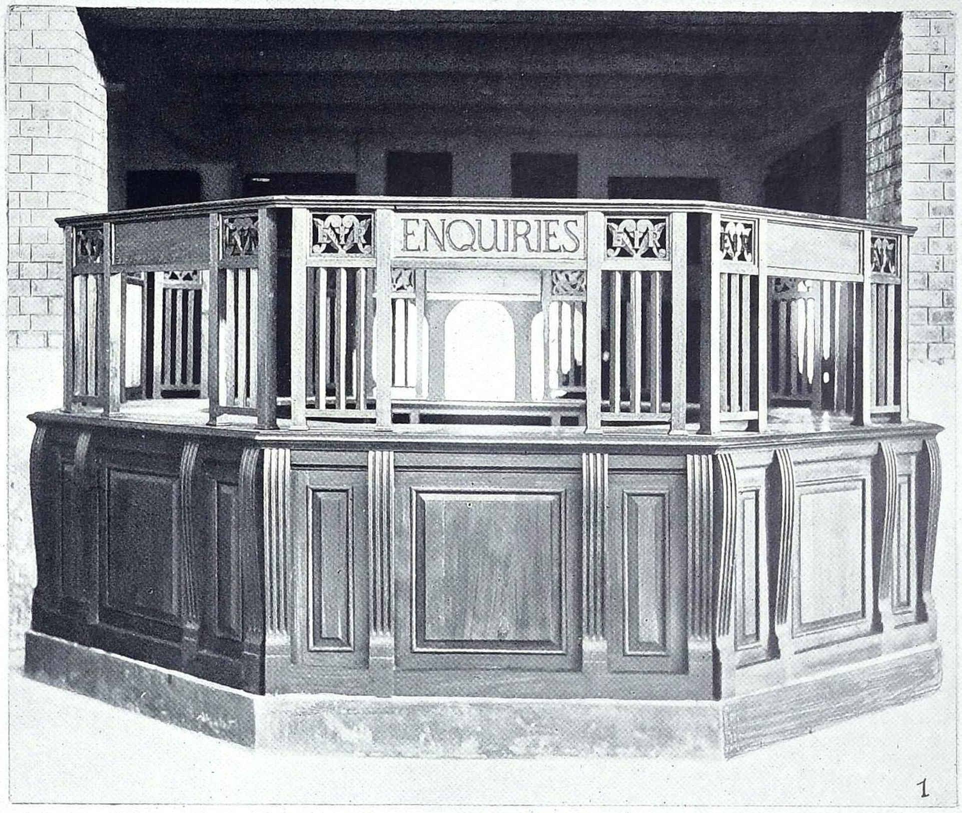
(3) that each employee whose name was on this list would be offered the first refusal of employment in the same or in a corresponding position to that which he held when he proceeded on strike, against vacancies which might occur in the future on the Great Indian Peninsula, East Indian and North Western Railways; and

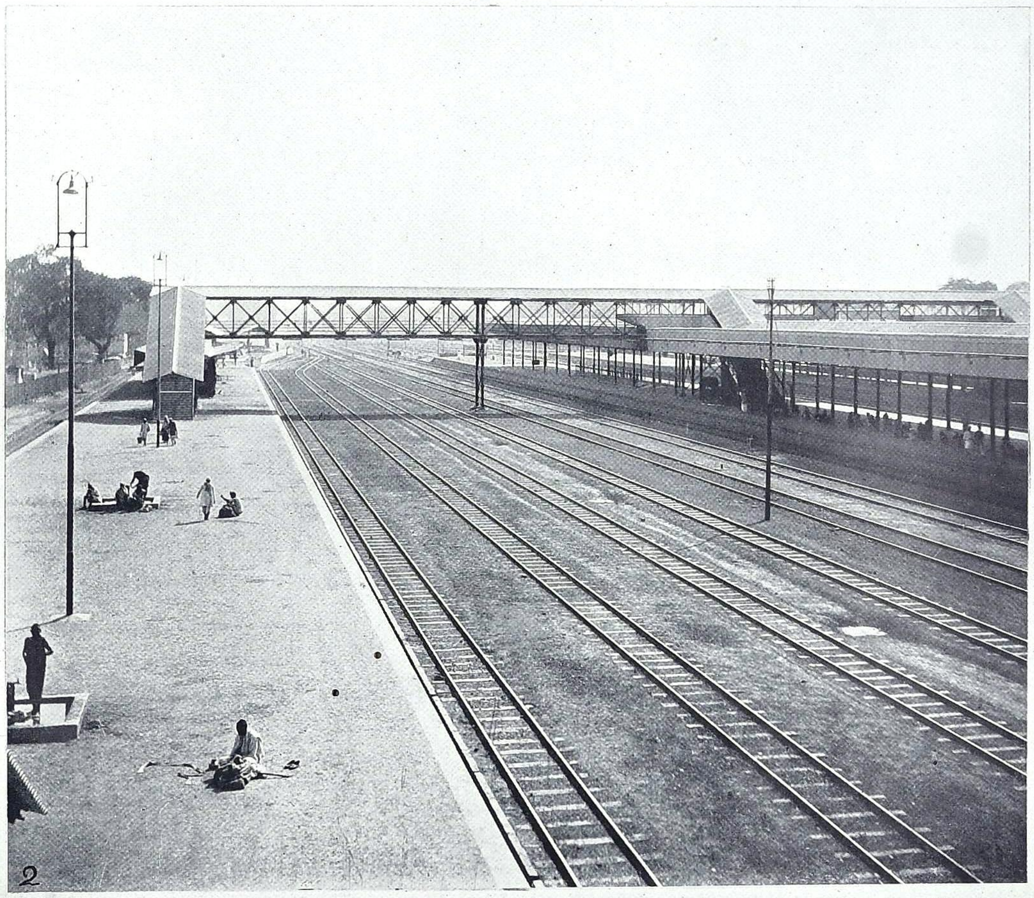
(4) that while an employee who declined to accept an offer of employment on the Great Indian Peninsula Railway would be removed from the list, any employee who declined to accept an offer of employment on the North Western or East Indian Railway would be transferred to a second list and offered appointment on the Great Indian Peninsula Railway after all employees on the first list had been offered employment.

As a result of this settlement strikers of all departments began to return to work; and by the end of March about 50 per cent. of the staff, excluding workshop employees, had offered to return to duty. Out of a total of 13,000 men employed in the workshops at Matunga, Parel and Jhansi, 1,200 men resumed duty on the 17th March and on the 22nd March 3,413 men had resumed work at Jhansi though the latter figure dropped to 1,049 on the 24th March. The strike, however, dragged on beyond the 31st March 1930 and, as the next report will show, did not terminate until the 21st April 1930.

110. *Other strikes.*—Almost coincident with the strike on the Great Indian Peninsula Railway, there occurred two other strikes of minor importance, one in the East Indian Railway collieries and the other in the workshops and sheds of His Exalted Highness the Nizam's Guaranteed State Railways. Between the 1st and 13th February 1930, miners and loaders at Kurharbaree and Serampur collieries numbering about 3,828, of whom 2,973 were contractors' men and only 855 railway employees, went on strike—apparently the result of an idea suggested to the men that the Royal Commission on Labour which visited Giridih on the 30th January 1930 had come to increase wages and also due to some minor grievances. The colliery superintendent met a deputation from the men and promised to enquire into their alleged grievances and by the 21st February the conditions in the collieries were practically normal.

On the 28th February 1930, about 3,000 men of the Lallaguda sheds and workshops of His Exalted Highness the Nizam's Guaranteed State Railways ceased to work as a protest against the terms of bonus which the Company's Board proposed to distribute only to members of the provident fund at the time of the transfer of the railway to His Exalted Highness the Nizam's Government. Subsequently, the strike spread to locomotive menials at engine changing stations and to a few of the traffic menials. The men ultimately returned to work on the 18th March on an assurance being given by the Railway Administration that a recommendation would be made to the Board of Directors to condone the break of service of the staff during the strike, for purpose of service gratuities on retirement.





1. Cawnpore Central Station—Enquiry office.
2. Cawnpore Central Station—Yard.

CHAPTER VII.

MISCELLANEOUS.

111. Extension of conveniences and facilities for the travelling public.—In their reports for previous years the Railway Board gave brief summaries of what had been done each year on the more important railways to increase the facilities for the travelling public generally and for lower class passengers in particular. This matter continues to receive special attention and more rapid progress is limited only by the amount of funds available. The fact that railways have been endeavouring to improve and extend conveniences and amenities, which make for more comfortable travelling, is amply evidenced by the particulars contained in the following paragraphs summarising the steps taken on the principal railways during 1929-30.

Train Services.

Bengal and North Western Railway.—Nos. 70 Down and 71 Up running between Bhatni and Benares Cantonment were extended to run to and from Allahabad City from March 1st, 1930. Nos. 57 Up and 58 Down running between Katihar and Gorakhpur were extended to run to and from Cawnpore (Anwarganj).

Bengal Nagpur Railway.—The mileage run daily by passenger trains, other than mail and express, increased from 8,102 to 8,714, *viz.*, by 612 miles, by mixed trains from 838 to 924, *viz.*, by 86, and by shuttle or other local trains, other than suburban, from 790 to 918, *viz.*, by 128.

Bombay, Baroda and Central India Railway.—Additional passenger trains were put on aggregating to an additional 1,334 train miles per day on the broad gauge, and 641 train miles per day on the metre gauge, and the more important services accelerated. Special attention was also given to the convenience of the pilgrims attending the monthly Poonam Fair at Dakor by the running of additional special trains, while for the Khwaja Fair at Ajmer a more extended and convenient service of extra trains was arranged.

Burma Railways.—A local mixed train was introduced each way between Pyinmana and Minbyin (28 miles) and another between Mohnyin and Mogaung (52 miles).

Eastern Bengal Railway.—As a result of a census of passenger trains, the time table was re-adjusted by converting a certain number of mixed trains into passenger trains, thus affording a better service to the travelling public. The train miles run per day by passenger trains other than mail and express, increased from 4,610 miles to 5,551 miles, *viz.*, by 941 miles on the metre gauge and from 5,215 to 5,540 miles, *viz.*, by 325 miles on the broad gauge.

East Indian Railway.—The number of trains run per day increased by 35 resulting in 2,790 more train miles per day. Of the latter increase, 2,119 train miles were due to four additional express trains being run and 417 miles due to fourteen extra passenger trains being introduced.

Great Indian Peninsula Railway.—Four additional mail and express trains and four other passenger trains were introduced resulting in an increase in the train miles per day aggregating to 1,202 and 602 respectively.

Jodhpur Railway.—Two mixed trains, 19 Up and 20 Down, between Mirpur Khas and Hyderabad (Sind) aggregating to an extra 84 train miles per day were introduced.

Madras and Southern Mahratta Railway.—Nos. 3 and 4 Grand Trunk express trains were introduced during the year, and Nos. 21 and 22 Bombay Fast passenger trains were converted into express trains resulting in an increase in train miles per day for express trains of 1,234 on the broad gauge.

On the metre gauge, the train miles per day for passenger trains, other than mail and express, increased from 6,590 to 6,821, *viz.*, by 231 and the mixed train daily mileage from 4,129 to 4,866, *viz.*, by 737.

His Exalted Highness the Nizam's Guaranteed State Railways.—On the broad gauge, the train miles per day for mail and express trains increased from 968 to 1,442, *viz.*, by 474 miles, and the running of two additional passenger trains increased the train miles per day from 1,364 to 1,438, *viz.*, by 74 miles.

North Western Railway.—The number of mail, passenger and mixed trains run during the year totalled 142,629 as compared with 137,358 in the previous year. Circumstances, however, necessitated a curtailment of the train service with effect from 1st March 1930 resulting in the number of important through trains being reduced from 29 to 27, mixed trains from 123 to 98 and shuttle and other local trains from 69 to 58. On the other hand, the number of through passenger trains increased from 131 on the 31st March 1929 to 155 on the 31st March 1930. The train miles run on the 31st March 1930 were 45,622 as compared with 48,106 on the 31st March 1929, *viz.*, a decrease of 2,484. On the narrow gauge, however, the train miles on the corresponding dates were 2,080 and 1,478 respectively, showing an increase of 602 miles.

Rohilkund and Kumaon Railway.—Four passsenger and six mixed trains were introduced resulting in the train miles run per day increasing from 3,232 to 4,010, *viz.*, 778 miles. Two passenger trains were converted to express trains and six mixed trains to passenger trains.

South Indian Railway.—In the following table a comparison is made between the train miles run on the 31st March 1929 and the 31st March 1930 showing an aggregate increase of 3,685 miles :—

Date.	Mail and Express trains.	Other passenger trains.	Mixed trains.	Suburban trains steam.	Shuttle trains other than suburban.	Total.
31st March 1929 . . .	4,044	10,216	4,280	497	1,296	20,333
31st March 1930 . . .	4,648	11,858	4,951	600	1,961	24,018
Increase	604	1,642	671	103	665	3,685

Improvements in internal fittings of carriages.

Assam Bengal Railway.—Of the 440 third and intermediate class carriages (including composites with upper class carriages) on this line, 425 are fitted with latrines, the remaining 15 being old type vehicles which run on short branch lines. 394 carriages out of the 425 are now provided with water-tanks.

Bengal and North-Western Railway.—The fitting of electric lights in the latrines of bogie third class and intermediate and third class carriages has been extended. A hook is also being provided in each látrine.

Bombay, Baroda and Central India Railway.—As intermediate and third class carriages go into shops, the opportunity is taken to arrange for—

(*a*) additional latrine accommodation.

(*b*) improved sanitation by raising the seats and sloping the panel suitably so as not to allow the water to stagnate.

(*c*) larger water tanks.

(*d*) small shelves.

(*e*) hooks for coats, etc., and

(*f*) lighting arrangements.

Efforts are also being made to improve the lighting of special trains, etc., by providing dynamo fittings to more spare coaches and to extend the provision of electric fans in all second class compartments.

Shower baths are being added for the convenience of first class passengers.

Burma Railways.—An experimental rake has been fitted up with improved lighting and is being tested.

Arrangements have been made for latrines to be built 4′ 4½″ × 3′ 0½″ in size, as new carriages are constructed and old carriages are re-built.

Eastern Bengal Railway.—An improved pattern throw-over window catch was devised, as it was found that the existing throw-over catches were being picked by means of a specially bent piece of wire inserted through the jhilmills. The new catches will prevent jhilmills being opened from the outside. The upper class compartments of two rakes have been fitted with these catches.

Hooks are being provided in all intermediate and third class latrines.

Great Indian Peninsula Railway.—New articulated rakes have been built for the electrified service between Poona and Bombay and electric cooking apparatus has been installed in these trains. Each train seats 64 first class and 156 second class passengers. The new features of this train have so far given satisfaction and are popular.

The work of converting gas lighted coaches to electric lighting has been practically completed.

Jodhpur Railway.—Latrines in lower class carriages are now being enlarged and provided with electric light and ventilation. Arrangements are being made (*i*) to prevent water from the latrine finding its way into the compartment and (*ii*) to fit latrines with hooks.

Madras and Southern Mahratta Railway.—All carriages turned out of shops during the year have been fitted with electric lights.

The latrines in third class carriages have been widened and two coat hooks have been provided in each latrine.

His Exalted Highness the Nizam's Guaranteed State Railways.—Hooks and corner shelves are being provided in the latrines of third class carriages.

North Western Railway.—The upper berths of 118 intermediate class carriages were upholstered with imitation leather as the vehicles passed through shops. The seat cushions were also upholstered with imitation leather when the existing canvas cushions required renewing.

152 units of broad gauge lower class carriages, which were built during the year, were provided with improved wider type latrines having slightly higher capacity water tanks, automatic self-closing water cocks to avoid wastage of water and to improve the flushing arrangements.

The central seats in the large second class compartments of 13 bogie composite first and second class carriages were removed.

The seats of the third class bogie tourist car intended for pilgrims and marriage parties were widened from 1′ 6″ to 1′ 9″ in order to give more comfortable seating accommodation by day and to serve as a berth by night.

Latrines of intermediate class carriages were provided with folding type wash-hand basins and coat hooks. The latter are also provided in latrines of third class carriages.

Rohilkund and Kumaon Railway.—All upper class carriages are in process of being provided with bunk lights which can be used as night lights.

All third class passenger stock has now been internally painted: the roof and upper half side in white and the lower half side in grey, improving lighting effect considerably.

South Indian Railway.—*Broad gauge.*—It has been decided to set apart one compartment in 54 bogie brake van and thirds and to fit them with

window bars and illuminated indication boards with a female figure head in colours painted in the middle. Seven coaches have been so provided during the year.

Metre gauge.—Five bogie dining cars were provided with door lights, catches to entrance doors and wider dining tables. This completes the work on all the seven cars on the line, as two had been similarly dealt with last year.

Seven bogie tri-composite carriages have been provided with an additional light in the first class compartments, leaving fourteen more carriages yet to be similarly provided.

The first lot of eight bogie vestibuled second class carriages had been provided only with water cans. It has now been decided to provide taps in the wash-basins of these coaches. This has been done in two carriages.

Night lights have been provided in the first and second class compartments of 53 upper class carriages.

Luggage racks were provided in all third class compartments of carriages running on the Nilgiri Railway.

Supply of Drinking Water.

Bengal and North-Western Railway.—During the hot season 77 extra water-men were employed, and the following additional facilities were provided during the year :—

(*i*) A tube well was sunk at Benares City to increase the water supply for passengers.

(*ii*) Three extra water-taps were provided at Jhusi.

(*iii*) A Kite motion pump was installed at Izat Bridge.

(*iv*) Extra taps were provided in the waiting shed at Allahabad City.

Bengal Nagpur Railway.—(*i*) Additional taps for drinking water were provided at three stations, namely, Bhaga, Layabad and Parbad.

(*ii*) 26 additional water drums on wheels were supplied to the following stations :—

Sompeta.	Basta.
Nainpur (2 drums).	Kanhan.
Umranalla.	Bilaspur (2 drums).
Burgi.	Kamptee.
Bagnan.	Hatbandh.
Machada.	Kargi Road.
Kurud.	Barahabhum.
Tilda.	Jhalda.
Sil-yari.	Lohardaga.
Raipur.	Chandrakona Road.
Rukni.	Purulia.
Salboni.	Bankura.

(*iii*) Additional drinking water shelters were provided at Muri and Itwari.

(*iv*) Ten additional permanent water-men were put on and during the hot weather months 96 temporary water-men were employed.

Bombay, Baroda and Central India Railway.—The system of providing travelling water-men on all passenger trains during the hot weather (March to October each year), which has proved very popular in the past was continued, and the strength of water-men augmented by 9 men on the broad gauge and 18 men on the metre gauge system.

Additional water taps were provided at eight stations. A hydrant with four taps was put in the new waiting sheds at Anklesvar and Broach. Water shelters were also provided at six stations.

Burma Railways.—Twelve additional water-men were employed at seven stations.

Eastern Bengal Railway.—Tube wells at nine stations, open wells at two stations and drinking water cages at sixteen stations were provided at a total cost of Rs. 34,096.

East Indian Railway.—Reinforced concrete tanks with pipe connections for storing cool drinking water were provided at Bandel, Burdwan, Rampore Haut, Sahebgunge, Bhagalpur, Asansol and Dhanbad.

Shelters for storing drinking water have been provided at 62 stations.

Great Indian Peninsula Railway.—Water shelters were provided on the down passenger platform at Bhusaval.

His Exalted Highness the Nizam's Guaranteed State Railways.—Arrangements were made for water supply for passengers at Jadcharla, Tadkalpudi and Gangakher.

North Western Railway.—(*i*) Tube wells or deep well hand pumping plants were provided at Lahore, Saharanpur, Jakhal, Kurukshetra, Gohana, Rohtak and at nine stations on the Ferozepore Division.

(*ii*) Hand-barrows were introduced at various stations for the conveyance of earthen vessels for the supply of water to passengers in trains.

(*iii*) Extra water-men were appointed during the hot weather and squads of water-men accompanied trains giving out supplies of fresh drinking water.

Rohilkund and Kumaon Railway.—A water handcart was provided at Bareilly City for supplying water to passengers and has proved very useful. Five such carts have been indented for, for other junctions and important stations.

A tube well giving pure water supply has been completed at Mailani.

South Indian Railway.—Additional hydrants were provided at the following stations:—

Conjeeveram.	Trichinopoly Junction.	Tiruvarur Junction.
Acharapakkam.	Golden Rock.	Negapatam.
Tindivanam.	Tiruturaipundi.	Velippalaiyam.
Villupuram Junction.	Mutupet.	Nagore.
Coleroon.	Kariyapattanam.	Virudhunagar.
Arkonam Junction.	Nidamangalam Junction.	Tirumangalam.

Restaurant Car Services.

Eastern Bengal Railway.—One first class carriage was converted into a combined first class and dining car, bringing the total number of dining cars on the broad gauge to four.

Madras and Southern Mahratta Railway.—From 1st April 1929, a restaurant car service was introduced between Madras and Bezwada by Nos. 3 and 4 Grand Trunk express trains. From 1st March 1930, this service was withdrawn and introduced instead (*a*) between Madras and Renigunta and (*b*) between Cuddapah and Guntakal by Nos. 21 and 22 Madras-Bombay express trains.

His Exalted Highness the Nizam's Guaranteed State Railways.—A compartment for the supply of refreshments for Indian passengers was provided in Nos. 138 and 139 trains on the broad gauge.

North Western Railway.—An Indian dining car of an improved pattern was constructed which will replace one of the dining cars for Indian passengers now running on 58 down and 59 up express trains between Lahore and Delhi. The new dining car, which has been built to a design approved by the Lahore Advisory Committee, embodies improvements in table and seating accommodation and minor alterations in the kitchen and pantry.

South Indian Railway.—From 1st March 1930, a dining car is being run on Nos. 9 and 10 Blue Mountain express trains between Erode and Mettupalaiyam.

Refreshment Rooms.

Bengal and North-Western Railway.—Refreshment rooms for Hindus and Mohammadans were opened at Darbhanga. The general condition of other refreshment rooms was greatly improved by providing extra furniture, etc., and by placing the contract for catering, etc., with Messrs. G. F. Kellner and Co.

Bengal Nagpur Railway.—An additional refreshment room for Mohammadan passengers was constructed at Nainpur and new Indian refreshment rooms were opened at Itwari, Berhampur, Cuttack, Rupsa, Rambha, Sahdol and Khodri. Improvements have also been effected to the Hindu refreshment room at Shalimar.

Bombay, Baroda and Central India Railway.—Improvements were made in the refreshment room at Rutlam and a new kitchen built for the refreshment room at Godhra. Retiring and refreshment rooms are being provided at Chitorgarh.

Eastern Bengal Railway.—Refreshment rooms for Hindus were provided at Poradaha and Daulatpur, bringing the total number of refreshment rooms on this railway to 23.

His Exalted Highness the Nizam's Guaranteed State Railways.—Refreshment rooms were opened at the following stations :—

European.	Indian.
Pedapalli.	Pedapalli.
Sirpur.	Sirpur.
Mahbubnagar.	Mahbubnagar.

North Western Railway.—Refreshment rooms were provided at Guler and Hindubagh and separate refreshment rooms for Hindus and Mohammadans at Amritsar.

Rohilkund and Kumaon Railway.—The floor of the refreshment room at Lucknow City was tiled, adding to the neatness and cleanliness of this room.

South Indian Railway.—A light refreshment room was opened at Negapatam and a light refreshment stall at Tinnevelly Junction.

Vendors' Stalls.

Assam Bengal Railway.—Hindu and Mohammadan vendors' stalls were provided at Hathazari, Fulgazi, and Maijgaon and Mohammadan stalls at Feni and Jorhat Town.

Platform vendors were appointed at Habiganj Court, Balla and Silchar.

Bengal and North-Western Railway.—Refreshment stalls were provided at Mankapur, Bahraich, Nanpara and one at the east end of Sonepore station.

Improvements were made by the extension of a tea stall shed at Sonepore and of a vendor's shop at Muzaffarpur.

Verandahs for the vendors' shops were provided at Gorakhpur, Sitamarhi and Darbhanga.

Bengal Nagpur Railway.—A tea kiosk was opened at Raipura and improvements were effected to previously existing stalls at Chakradharpore, Gondia and Purulia. Additions and alterations were also carried out to the Mohammadan tea kiosk at Vizianagram. An electric light and fan were provided in the pan stall at Adra, and water connection laid on to the stalls at Raipur, Naupada and Balasore.

H. E. H. THE NIZAM'S STATE RAILWAY.

New tea stall erected by the Indian Tea Cess Committee at Hyderabad (B. G.)

Bombay, Baroda and Central India Railway.—In addition to improvements to certain stalls, a Hindu tea stall was opened at Umreth, an Indian refreshment stall at Dhrangadra, a Hindu tea and refreshment stall in the waiting shed at Dakor and an ice depôt at Phulera.

The small new type stall at Dahanu Road mentioned in the report for 1928-29 has since been completed. It appears suitable for roadside stations, at many of which similar stalls will be erected as funds become available.

Eastern Bengal Railway.—At nine stations (*viz.*, Gocharan, Dakshin Barasat, Jaynagar Majilpur, Lakshmikantapur, Sardah Road, Rajshahi, Purnea Court, Banmankhi and Murliganj) new vendors' stalls were opened. The improvement of the existing stalls at other stations is also receiving the attention of the administration and good progress was made in this direction.

East Indian Railway.—Stalls were provided at Khagraghat Road, Sahebgunge, Bandel, Hazaribagh Road, Gaya, Chilbila, Dalmau, Janghai, Mau Aima, Rae Bareli, Sultanpur and Unao.

At Azimganj Junction a pucca stall and a tea kiosk were provided in the third class waiting shed for Hindus.

Jodhpur Railway.—In connection with the opening of the Samdari-Jalor extension, vendors were provided at Mokalsar and Jalor.

An appreciable increase was made in the number of vendors at ten other stations.

Madras and Southern Mahratta Railway.—Fruit stalls were provided at Tumkur, Harihar, Chikjajur, Arsikere and Birur.

A covering was provided to the top of the fruit stall at Puttur.

His Exalted Highness the Nizam's Guaranteed State Railways.—A new stall was opened at Hyderabad broad gauge station.

North Western Railway.—The number of vendors' stalls was increased at the following stations :—

Wazirabad.	Quetta.	Kolpur.
Lodhran.	Sibi.	Bahawalnagar.
Bhakkar.	Mach.	Tarn Taran.
Patti.	Abohar.	Peshawar Cant.
Pakpattan.	MacLeod Ganj Road.	Ghaziabad.
Hoshiarpur.	Nakodar.	

Rohilkund and Kumaon Railway.—A concrete counter was provided in the waiting hall at Lalkua, for use as a vendor's stall.

South Indian Railway.—Vendors' stalls (tea and fruit stalls) were provided at the following stations :—

Tea stalls.—Ariyalur, Payyanur, Metur Dam, Palni, Podanur and Pollachi.

Fruit stalls.—Ariyalur, Keeranur, Pudukkottai, Satur, Punalur, Tuticorin, Tindivanam, Coleroon, Nagore, Manjeshwar, Kinattukkadavu, Metur Dam, Salem Town and Pantalayini.

Temporary Indian light refreshment stalls under railway management were run for the convenience of passengers attending the festivals, at Tiruchendur, Palni, Conjeeveram, Sankaranayinarkovil and Srivilliputtur.

Chota hazri is served to upper class passengers in the train compartments in No. 1 Ceylon mail at Tanjore, No. 2 Ceylon mail at Chingleput, Nos. 5 and 25 at Mayavaram and Nos. 10 and 12 mails at Podanur.

Waiting rooms for upper class passengers.

Assam Bengal Railway.—A waiting room was provided at Chaumuhani.

Bengal and North-Western Railway.—A waiting room for ladies was provided at Savan.

Bengal Nagpur Railway.—Additional waiting rooms were provided during the year at four stations, namely, Panchkura, Dantan, Fuleshwar and Kolaghat. A new waiting room for intermediate class passengers was also constructed at Bhadrak.

Bombay, Baroda and Central India Railway.—A waiting room was provided at Bhalej and a combined first and second class waiting room at Reengus.

Burma Railways.—A waiting room was provided at Thingangyun.

Eastern Bengal Railway.—Improvements to waiting rooms were made at two stations, *viz.*, Sirajganj Bazar and Nator, at an estimated cost of Rs. 1,915.

East Indian Railway.—One retiring room was provided at Najibabad.

Jodhpur Railway.—Waiting rooms were provided at Mokalsar and Jalor.

His Exalted Highness the Nizam's Guaranteed State Railways.—First and second class waiting rooms for ladies were provided at Jalna and Mahbubnagar.

North Western Railway.—Additional waiting rooms were provided at Jungshahi, Fort Sandeman and Kila Saifulla.

Rohilkund and Kumaon Railway.—The floors of waiting rooms at Lucknow City, Sitapur, Mailani, Lakhimpur, Kheri, Pilibhit, Kathgodam, Budaun and Kashipur were tiled, thus adding to the neatness and cleanliness of the rooms.

South Indian Railway.—Additional waiting rooms were provided at Pandaravadai, Mannargudi, Agastiyampalli and Lovedale.

New waiting rooms were provided at Madras Park, Madras Chetpat, Kodambakkam, Mambalam, Saidapet and St. Thomas' Mount.

Waiting halls for third class passengers.

Assam Bengal Railway.—Waiting halls were extended at Meharkalibari, Feni, Badarpur Junction and Shaistaganj and new halls provided at all stations on the Feni-Belonia and Chittagong-Nazirhat branches.

A waiting room for women was provided at Titabar Junction.

Bengal and North-Western Railway.—Waiting halls were provided at the east end of Gorakhpur main platform and at Izat Bridge for mela passengers. Waiting halls with special accommodation for Indian ladies were provided at Balrampur, Jaynagar and Madhubani.

Bengal Nagpur Railway.—Extensions to third class waiting halls were carried out at Musra, Saongi, Vishnupur, Jaithari and Venkatnagar. The waiting hall at Jaleswar was also extended and a zenana waiting room added.

New waiting halls were provided at nine stations, namely, Raipur City, Howbagh Jubbulpore (for ladies), Madhukunda, Raipur (Zenana waiting hall), Nagbhir (for ladies), Sambalpur Road, Musra, Jaithari and Venkatnagar.

Bombay, Baroda and Central India Railway.—A sum of Rs. 20,000 is earmarked each year for each of the systems, broad gauge and metre gauge, and such stations as require a minimum area of 400 sq. ft. at 9 sq. ft. per passenger are provided up to this amount. Waiting halls at seven stations were accordingly extended and new waiting halls provided at nine stations.

Eastern Bengal Railway.—Passenger halls were extended at Ranaghat, Rameswarpur and Gaibanda and new halls built at Dinajpur, Piali, Sonarpur and Basuldanga. Intermediate and third class waiting rooms for ladies were provided at Ranaghat, Kalyanpur, Bhutsara, Golakganj, and Nalbari, and partitioned rooms for the use of Indian ladies were provided at Basugaon, Bongaigaon, Sorupeta, Pathshala, Jihu and Baneswar.

In addition, new passenger halls at Krishnagar City, Badarganj, Belaichandi, and Satgampur Road and Intermediate and third class waiting rooms at Nabadwip Ghat, and Jalalgarh were in progress towards the end of the year.

East Indian Railway.—New halls were provided at Bhagalpur, Allahabad and Firozabad.

Great Indian Peninsula Railway.—New halls were provided at Bankhedi, and Guramkhedi stations.

His Exalted Highness the Nizam's Guaranteed State Railways.—The waiting hall and verandah at Pedapalli were paved.

New halls were provided at Kolanur, Akanapet, Jadcharla and Dornakal.

North Western Railway.—Extensions to existing waiting halls were carried out at Ramdas, Karachi City, Rahim Yarkhan, Tando Adam and Shankar. New halls were built at Kathala, Jacobabad, Shikarpur, Ferozepore City and Chhini Khichi.

Rohilkund and Kumaon Railway.—Waiting halls on the island platform at Lucknow Junction, at Lucknow City and Bhojeepura were completed and brought into use.

South Indian Railway.—Waiting halls at the following stations were extended :—

Vellore Cantonment.	Tiruvadamarudur.	Varkala.
Tirukoilur.	Agastiyampalli.	Kallidaikurichi.
Capper Quarry.	Elangakurichi.	Taliparamba Road.
Trichinopoly Fort.	Vanjipalaiyam.	Angamali.

New halls were provided at :—

Palayasivaram.	St. Thomas' Mount.
Srirangam.	Minambakkam.
Madras Park.	Tambaram.
Madras Chetpat.	Kelamangalam.
Kodambakkam.	Tiruchendur.
Mambalam.	Tirupattur.
Saidapet.	Tinnevelly Town.

Provision of Benches.

Assam Bengal Railway.—Benches were provided in all waiting halls at stations on the Feni-Belonia and Chittagong-Nazirhat branches. Two benches were provided in each of the third class waiting halls at Lalabazar and Hailakandi and in the waiting room for Indian ladies at Titabar Junction.

Bengal and North-Western Railway.—Eight benches were provided at Gorakhpur.

Bengal Nagpur Railway.—49 additional benches were provided on platforms at eighteen stations and a total of 21 in the third class waiting halls at fourteen stations.

Bombay, Baroda and Central India Railway.—45 benches were provided at sixteen stations on the broad gauge and 24 benches in the third class waiting halls at stations on the metre gauge.

Burma Railways.—Two benches were provided for the platform at Hlawga and five in the third class waiting halls at Mandalay.

East Indian Railway.—One bench for the station platform was provided at each of five stations and for the third class waiting halls at nine stations. Cement benches were built in the third class waiting halls at Lucknow and three ordinary benches supplied for the waiting halls at Bijnor.

Great Indian Peninsula Railway.—Twelve benches were provided for the platform at Shelarvadi and six for the platform at Shegaon. 22 benches were placed in the third class waiting halls at four stations.

Jodhpur Railway.—Four benches were provided for platforms at three stations.

Madras and Southern Mahratta Railway.—30 benches were provided for platforms at ten stations and 21 benches for waiting halls at six stations.

North Western Railway.—367 benches were provided for the platforms at 66 stations and 488 benches for the third class waiting halls at 88 stations.

South Indian Railway.—Four benches were supplied for the platform at Trichinopoly Junction and seventy benches were placed in the third class waiting halls at 43 stations.

Opening of new stations and City Booking Offices.

Bengal and North-Western Railway.—Lakarmandi Bridge station was opened for use during the dry season.

An Out-Agency at Barhalganj, served *viâ* Dohri Ghat railway station, was opened for the booking of parcels.

Bengal Nagpur Railway.—Kharkhari block hut (between Mohuda and Gomoh), Shyamchak (between Howrah and Khargpur), Ghatkuari (on the Mayurbhanj Light Railway), Pratap Bagh (between Gondia and Balaghat) and Gurudi-jhatia (between Talcher and Cuttack) were opened for passenger traffic.

A branch booking office for the issue of tickets to passengers was opened at Shambazar, in Calcutta, for the joint use of Bengal Nagpur, Eastern Bengal, and East Indian Railways.

Bombay, Baroda and Central India Railway.—Four new flag stations were either sanctioned and provided or in course of construction. Two of the existing flag stations, at which a fairly heavy coaching traffic has been fostered, are being provided with booking offices, waiting halls and benches.

Burma Railways.—A city booking office for the issue of tickets to passengers was opened at Prome, and the question of opening a similar office at Mandalay was under consideration.

East Indian Railway.—33 halting places were provided for public passenger traffic and Telo block hut, Hathdah Ghat and Mitawali flag stations were opened for passenger traffic.

Great Indian Peninsula Railway.—The following new stations were opened for traffic as indicated against each :—

Agra-Bah Junction Cabin Therai Pentikhera Pinahat Holipura	These are halt stations, situated on the Agra-Bah branch, open for booking of passengers to and from stations on this branch.
Bah (terminal station of the Agra-Bah branch).	Open for local booking of passengers, luggage and parcels, etc.
Patwara (On the Jubbulpore-Naini section).	Open for coaching traffic in local booking.
Binaur (On the Jhansi-Cawnpore section).	Open for coaching traffic in local booking.

The city booking office at Sholapur, which was previously open for the booking of passengers only, was opened for the booking of outward parcels.

Madras and Southern Mahratta Railway.—The following stations were opened for public traffic :—

Attippattu station (flag station) between Ennore and Minjur stations.

Mallasandra (crossing station) between Gubbi and Tumkur.

Rohilkund and Kumaon Railway.—Alakhnath halt situated between Bareilly City and Izatnagar stations was opened for third class passengers by certain trains.

South Indian Railway.—The following stations were opened for public passenger traffic :—

(*i*) On the broad gauge :—

Cannanore South (between Cannanore and Etakkot).
Iringal (between Badagara and Tikkotti).
Karakad (between Pattambi and Shoranur).

(*ii*) On the metre gauge :—

Nellayi (between Pudukad and Irinjalakuda).
Sendakottai (between Adirampatnam and Pattukkottai).
Elantangudy (between Mayavaram and Manganallur).
Nallattipalayam (between Kovilpalaiyam and Kinattukkadavu).

112. Flood Damages.—*Assam Bengal Railway.*—In June 1929 the Assam Bengal Railway was visited with about the worst floods in its history. The floods affected over 250 miles of railway, causing numerous extensive breaches in the embankments and slips on the hill section. Two bridges also were washed away. Traffic was disorganised and several sections had to be closed down for periods ranging from 5 days to nearly 2 months. The floods were also responsible for a tragic disaster on the hill section, where on the 10th June the railway bank collapsed under the weight of an engine, precipitating the latter and causing the death of the six men who were on it.

Bombay, Baroda and Central India Railway.—A number of breaches occurred on the metre gauge section owing to heavy rains during the monsoon of 1929. The worst breaches are detailed below.

On July 23rd on the main line between Basi and Kanauta long stretches of the bank were badly damaged and washed away. No transhipment was possible and all traffic had to be suspended till the line was restored on August 1st.

Owing to heavy rain between July 20th and 27th the level of the Sambhar lake rose some 3 feet above normal, with the result that the railway bank on the Sambhar branch was washed away to a length of about 400 feet. Several other breaches also occurred on this section, but they were all repaired by August 4th.

The Dholka-Dhandhuka section which had been very severely breached in the three previous years, was again breached in July 1929. The damage was not serious, but, owing to the long length of new earth work which had not yet become consolidated, the formation became unsafe on account of continuous rain and traffic between Bhurkhi and Hadalabhal was suspended for 7 days.

Burma Railways.—The following were the principal breaches and washaways :—

Between Aungban and Kanna from 1st to 4th May 1929.
,, Ywataung and Ngatayaw from 13th to 20th May 1929.
,, Toungoo and Yamethin from 8th to 10th September 1929.
,, Pyinmana and Natmauk from 8th to 16th September 1929.
,, Sintaung and Shwenyaung from 9th to 16th September, 28th September to 5th October and 23rd October to 3rd November 1929.
,, Kanbya and Tindeinyan from 27th to 29th September 1929.

Eastern Bengal Railway.—Abnormally heavy rain in the hills and sudden rises in the Kaljani, Sankosh and Aie rivers resulted in several breaches and interruptions of traffic, one of which lasted for 5 days and another for 3 days.

The usual shifting of ghats was carried out at an expenditure of about Rs. 2½ lakhs. The changes at the ghats were more or less normal and do not call for any special mention. The experience of ghats on this railway has

been that it is practically impossible to have a ghat which is workable throughout the year. This view has been further supported by the fact that the projected 'all the year round' ghat at Sabeck-Goalundo on the Ganges had to be abandoned owing to the heavy silting of the river at that place.

East Indian Railway.—On October 9th, 1929 the line between Dhownee and Mandar Hill on the Bhagalpur-Mandar Hill branch was breached by floods. The breach was finally repaired on October 23rd and normal working was resumed.

Heavy rain in July and August affected the newly opened Barka-kana-Barwadih section of the Central India Coalfields Railway, which was reported as unsafe at points between Tori and Barwadih and between Hendegir and Ray. The running of trains over the former section was suspended from July 28th to September 11th, except for a short interval of 4 days, but the trouble on the latter section only occasioned a suspension of traffic for one day.

Heavy rain in October rendered bridge No. 164 between Nathnagar and Akbarnagar on the Loop line unsafe for traffic. The running of trains over the bridge was stopped and passengers and traffic were transhipped. On October 21st the scour caused one of the piers to tilt and a span was dislodged and fell into the stream. Transhipment being impossible, all traffic was suspended. A footway over the bridge was provided and the booking of passengers and light packages was resumed on November 22nd. The through running of trains was resumed on January 4th after the bridge had been repaired.

Jodhpur Railway.—In the eastern portion of the railway exceptional rains in July resulted in considerable breaches on the main line between Kuchaman Road and Gachhipura, traffic being suspended for 6 days. The same rain caused serious damage to the Makrana-Parbatsar branch which was closed from July 23rd to August 13th. In the neighbourhood of Barmer heavy rain on the 26th and 27th of July occasioned serious breaches between Kavas and Bhachbhar, the main line being closed from the 27th to 30th July. Due to minor breaches the Samdari-Jalor branch was closed from the 27th July to 1st August.

In Sind exceptionally heavy rains and consequent floods occurred in July and August causing a large part of the country to be water-logged and the passage of trains over unballasted track extremely difficult.

Floods severely damaged the Khadro branch on four separate occasions in the first 40 miles, resulting in total suspension of traffic from the 14th July to 2nd September.

Madras and Southern Mahratta Railway.—Owing to heavy rain half of the Chinna Hagari bridge on the Bellary-Rayadrug branch was washed away on 20th September 1929, necessitating suspension of booking of all traffic beyond Somalapuram. The through running of trains on the Bellary-Rayadrug branch was resumed from 6th November 1929.

North Western Railway.—Abnormal rains in July and August 1929, combined with the bursting of the Shyok Dam, caused serious floods on the North Western Railway, as a result of which the railway was extensively damaged. Fortunately none of the main lines was breached or bridges damaged, but branch lines were submerged in many places and suffered severely and much railway property, notably at Kalabagh, drifted down the river Indus and was lost.

On the Karachi division, the Indus floods, combined with abnormal rainfall in Sind, caused many serious breaches and considerable anxiety prevailed at one time in regard to the main line, more especially as the Dadu loop line had been extensively damaged previously.

On the Multan Division, trouble was mainly experienced immediately west of Multan and on the Sher Shah-Kundian section north of Mahmud Kot.

The Zhob Valley Railway between Kila Saifulla and Fort Sandeman was damaged in many places.

On the Ferozepore division, the right marginal bund of the Sulemanke headworks was breached and the flood struck the railway embankment, breaching the line in 15 places. Fortunately the major portion of the discharge worked its way back to the river and only a comparatively small flood reached the line.

113. Accidents.—(*a*) The following table shows the number of railway servants and other persons killed and injured in accidents on Indian railways, excluding casualties in railway workshops :—

Cause.	Killed.		Injured.	
	1928-29.	1929-30.	1928-29.	1929-30.
A.—Passengers.				
(1) In accidents to trains, rolling-stock, permanent-way, etc.	24	6	207	69
(2) In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	390	349	1,131	1,040
(3) In accidents on railway premises in which the movement of trains, vehicles, etc., were not concerned.	4	3	30	17
Total .	418	358	1,368	1,126
B.—Railway Servants.				
(1) In accidents to trains, rolling-stock, permanent-way, etc.	21	33	192	174
(2) In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	341	343	1,492	1,708
(3) In accidents on railway premises in which the movement of trains, vehicles, etc., were not concerned.	49	62	3,180	4,014
Total .	411	438	4,864	5,896
C.—Other persons.				
(1) In accidents to trains, rolling-stock, permanent-way, etc.	55	67	94	171
(2) In accidents caused by movements of trains and railway vehicles exclusive of train accidents.	2,448	2,481	775	774
(3) In accidents on railway premises in which the movement of trains, vehicles, etc., were not concerned.	26	21	86	87
Total .	2,529	2,569	955	1,032
GRAND TOTAL .	3,358	3,365	7,187	8,054

(*b*) The number of passengers killed decreased by 60 and the number of passengers injured decreased by 242 inspite of an increase of 6·3 million passenger train miles.

(*c*) The following statement shows the number of passengers killed and injured on all railways in the last 5 years :—

Year.	Passengers.	
	Killed.	Injured.
1925-26	377	1,323
1926-27	347	1,264
1927-28	387	1,179
1928-29	418	1,368
1929-30	**358**	**1,126**

(*d*) On Class I Railways the number of railway servants killed in accidents, which occurred during the movement of trains and railway vehicles, exclusive of train accidents, increased by 8 and the number injured by 198.

The following table analyses the main causes of the accidents :—

Cause.	Numbers killed.		Numbers injured.	
	1928-29.	**1929-30.**	1928-29.	**1929-30.**
1. Misadventure or accidental	185	**210**	1,118	**1,400**
2. Want of caution or misconduct on the part of the injured person.	133	**125**	288	**215**
3. Want of caution or breach of rules, etc., on the part of servants other than the persons injured.	12	**3**	41	**31**
4. Defective apparatus or system of working, dangerous places, dangerous conditions of work or want of rules or systems of working.	...	...	1	...
Total	330	**338**	1,448	**1,646**

Out of the total of 3,365 persons killed, 2,010 were trespassers, 375 committed suicide and 86 were killed on railway premises otherwise than during the movement of trains, vehicles, etc. The increase in the number killed, as compared with the previous year is very slight.

114. The following statement analyses the accidents which occurred during the last two years, grouped under the principal causes. A statement showing the accidents in greater detail for each railway will be found in Appendix D of Volume II of this report:—

	1928-29.	1929-30.
1. Running over cattle	9,707	**9,285**
2. Derailment not involving passenger trains	4,637	**4,095**
3. Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff . . .	2,605	**3,105**
4. Accidents due to failure of couplings and draw gear	3,150	**3,091**
5. Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical department	804	**783**
6. Derailment of passenger trains . .	412	**506**
7. Broken rails	308	**336**
8. Collision involving goods trains or goods vehicles	265	**300**
9. Fires in trains or at stations or bridges .	237	**266**
10. Running over obstructions on the line .	219	**217**
11. Flooding of permanent-way . . .	126	**171**
12. Trains running over obstructions or vehicles at level crossings . .	120	**125**
13. Passenger trains running in the wrong direction through points but not derailed	112	**110**
14. Land slips	52	**108**
15. Accidents due to failure of axles . .	89	**94**
16. Collisions involving passenger trains .	63	**88**
17. Collisions between light engines . .	64	**71**
18. Accidents due to failure of brake apparatus	26	**19**
19. Accidents due to failure of tyres or wheels	33	**14**
20. Failure of bridges or tunnels	9	**4**
21. Miscellaneous	430	**738**
Total .	23,468	**23,526**

The total number of accidents shows an increase of 58 as compared with the previous year; against this the increase in total train miles was 4·7 millions.

The largest number of accidents still comes under the head of "Running over cattle" (39 per cent. of the whole) followed by "derailment not involving passenger trains" (17 per cent.), "accidents due to failure of couplings and draw gear" (13 per cent.) and "accidents due to failure of engines owing to faulty working of the running staff, etc." (13 per cent.). The accidents under these heads, however, show a decrease compared with the previous year except in the last item.

The remaining heads show increases with the exception of "accidents due to failure of engines owing to faulty material and workmanship in the mechanical department", "running over obstructions on the line", "passenger trains running in the wrong direction through points but not derailed", "accidents due to failure of brake apparatus, tyres or wheels" and "failure of bridges or tunnels".

115. Among the more serious accidents which occurred during the year the following may be briefly mentioned:—

(i) *Capsizing of vehicles on 40 Down Passenger on the Bengal and North Western Railway.*—On the 26th May 1929 at about 15-5 hours a cyclonic storm, with wind velocity estimated at from 80 to 100 miles an hour, caught No. 40 down passenger as it came to a stand at Samastipur outer signal. One intermediate class six-wheeled carriage, which was the second from the engine, was blown clean over down the bank with its top crushed in and wheels in the air. The six-wheeled brakevan next to the engine and one six-wheeled composite intermediate and third class coach (the third vehicle from the engine) were also blown or dragged over on to their sides down the bank. Nine persons were injured: three seriously. The damage to rolling stock amounted to Rs. 3,000.

(ii) *Derailment of a Relief Train on the Assam Bengal Railway.*—On the 11th June 1929 at 3-10 hours while an engineering relief train was proceeding from Mupa to Langting on the hill section of the Assam Bengal Railway, the track at mile 340$\frac{3}{4}$ subsided under the engine owing to the bank, which is about 20 feet high, having been affected by flood water impounded by it on the east side of the line. The engine sank vertically, but owing to the gap in the bank being only just the length of the engine the tender was tilted up at an angle of about 60 degrees to the horizontal and telescoped into the engine cab. The engine driver, both firemen, the District Engineer, the Assistant Engineer and the gang mate of the length, all of whom were riding on the foot-plate inside the engine cab, were killed, having been crushed against the end of the boiler. The damage to permanent-way amounted to about Rs. 2,500 and to rolling stock to approximately Rs. 8,000.

(iii) *Derailment of 26 Down Mixed on the H. H. Gaekwar's Baroda State Railways.*—On the 13th July 1929 at 13-52 hours No. 26 down mixed train, after being halted by engineering signals between stations at mile 34/4 on the Kosamba-Umarpada Branch owing to the condition of the track after a night of heavy rain, was signalled to go ahead. After it had moved only a short distance, the track beneath the tender began to slide out to the left, causing the tender to be overturned and rolled down the bank, and carrying with it the engine, a four-wheeled empty goods wagon and one bogie coach. The driver was killed, the fireman escaping as he had jumped clear, while the few passengers in the train escaped without injuries.

(iv) *Derailment of 57 Up Passenger on the Bengal and North Western Railway.*—On the 1st August 1929 at about 22-55 hours the engine and the first five vehicles of No. 57 Up passenger train was derailed at mile 266/9 between Bhatpar Rani and Bhatni junction due to the removal of two pairs of fish-plates with their bolts and all the outside spikes of one rail. One man was killed, and of the two seriously injured one died subsequently. Ten other passengers were slightly injured. Six members of the permanent way staff of the railway were implicated in this case, of whom one turned approver, three were found guilty of

murder and sentenced to transportation for life and two were acquitted for want of sufficient evidence.

(v) *Attempt to wreck a Viceregal special on the North Western Railway.*—On the 23rd December 1929 at about 7-40 hours, while a special train conveying His Excellency the Viceroy from Bombay was nearing Delhi, a bomb, placed under one rail of the track at mile 952/6 between Hazrat Nizamuddin and New Delhi stations exploded, blowing out the end verandah of one of the saloon carriages and causing slight injuries to one of the servants travelling in the train.

(vi) *Collision at Clutterbuckganj on the East Indian Railway.*—On the 10th January 1930 at about 0-7 hours No. 72 down Peshawar-Lucknow express ran into No. 557 up passenger at Clutterbuckganj station, due to the driver of the express train running against signals and to the points having been set for the loop line on which the goods train was standing instead of for the straight line. Eleven persons were killed and twenty injured, of whom one subsequently succumbed to his injuries. The cost of damage to rolling stock amounted to Rs. 83,300. The driver and pointsman were prosecuted and sentenced to six months' rigorous imprisonment under Section 101 of the Indian Railways Act. The pointsman was also sentenced to eight months' rigorous imprisonment under the Indian Penal Code, the sentences to run concurrently.

116. Medical equipment for dealing with casualties.—The question of providing medical equipment for dealing efficiently with casualties arising out of accidents on railways and standardizing the equipment of accident relief trains, which had been under consideration for some time was referred to the Standing Advisory Committee of Railway Medical Officers on whose recommendations standards have been prescribed in regard to the medical equipment to be provided :—

(*i*) on accident relief trains,

(*ii*) at selected station at which no accident relief train is stabled, but where there is a railway hospital or dispensary,

(*iii*) at selected stations other than those, covered by (*ii*),

(*iv*) at large marshalling yards and other such places not adjacent to passenger stations,

(*v*) in workshops,

(*vi*) in running sheds,

(*vii*) in trains carrying passengers.

The arrangements previously existing on railways are being brought into line with the standards prescribed, as funds permit.

117. Publicity.—Railway publicity propaganda has been continued during the year to encourage in every way possible the development of tourist traffic from abroad and of local traffic in India. The Mysore Railways have since joined the Central Railway Publicity Bureau, which now includes, besides the Mysore Railways, the five State-managed railways, *viz.*, the North Western, Eastern Bengal, Great Indian Peninsula, East Indian and Burma Railways, and two Company-managed railways, *viz.*, the Bombay, Baroda and Central India and the Bengal Nagpur Railways. The Central Publicity Bureau co-ordinates the work done in India by the publicity branch on each of these railways and is responsible for the production of films, photographs, pamphlets and posters suitable for use overseas as well as in India, for the issue of the Indian State Railways Magazine, and for the supervision of the working of the Railway Publicity Bureau in London and of a similar Bureau in New York, which was opened during the year, and generally for all overseas publicity.

Films.—The film production branch continues to be one of the important branches of the bureau, and in order to keep up with the general improvement in film technique and to raise the standard of film production a specialist film officer was recruited from England and reported for duty on December 30th, 1929. Owing to the absence on leave for six months of the chief film officer and to the arrival of the specialist film officer only towards the end of the year under review, the number of films produced was considerably less than in the previous year. The more important films prepared, apart from topical films of important railway events during the year, include Kheddah operations in Mysore, a descriptive film of Mysore and of the Kumbh Mela at Allahabad. Film libraries were started on all railways and a copy of each film produced by the bureau was supplied to each library. The popularity of the displays given by cinema cars showed no decrease, 943 shows being given at which the attendance aggregated to well over 1,800,000. There are now nine cinema cars on railways that have joined the Central Publicity Bureau, and it is being increasingly realised that the exhibition of films has a definite educative value in a country where a large proportion of the population are illiterate. The scope of the films shown included amusements and educational subjects, instructional, such as safety first, health, agriculture, etc., and such matters as would encourage travel to pilgrim centres.

Special steps were taken to expand the photographic output of the bureau, to meet the large demands for photographs from the London and New York bureaux and from newspaper proprietors, press correspondents and descriptive writers from all over the world.

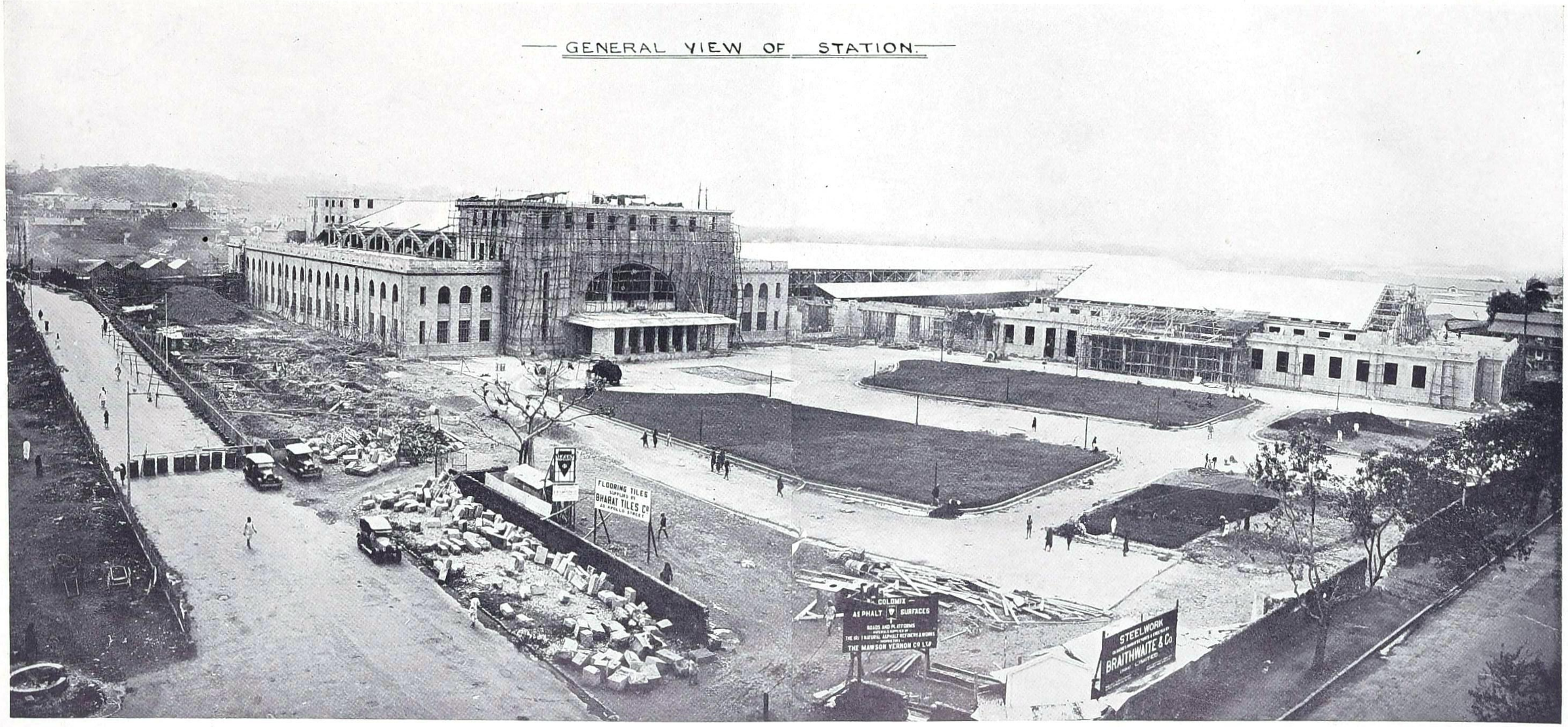
Pamphlets and posters.—A general pamphlet on India and Burma was produced and 75,000 copies distributed. This pamphlet included information relating to shipping lines to India, particulars of railway facilities provided by Indian railways and useful information on numerous points calculated to assist overseas tourists travelling in India. Eight other new pamphlets were issued during the year, while the total number of copies issued by the Bureau during the year was 347,803. Various pamphlets were also issued by individual railways in English and the vernaculars to advertise their own services and pilgrim centres.

The large number of posters produced in the previous year obviated the necessity for much to be done in this line. Only five new posters were, therefore, printed during 1929-30, of which three were retained for issue during 1930-31. Steps were also taken for the production of five more posters for the 1930-31 campaign, so that a total of eight new posters are now available. In order to encourage poster production in India, two classes for posters were included in the Simla Fine Arts Society Exhibition, held in September 1929 in Simla, through the courtesy of the committee, and prizes of Rs. 250 were offered in each class, the winning poster becoming the property of the Indian State Railways. A number of entries were received, and one of the winning posters was printed during the year.

Posters are now exchanged on a reciprocal basis with railways in England, France, Germany, Italy, Canada, South Africa, Japan, Austria, Hungary, Tasmania, New Zealand, Switzerland, Beira, Mashonaland, Rhodesia, Iraq, Norway, Kenya and Uganda. A total of 28,137 pictorial posters were issued by the Bureau, in addition to a large number of pictorial and letter press posters issued by individual railways to draw attention to places of tourist interest, pilgrim centres and convenient train services.

The Indian State Railways Magazine.—The high standard of production by which the Indian State Railways Magazine is distinguished was further improved upon, and it is gratifying to record that there has been a steady increase in the circulation. The magazine endeavours to re-tell the story of some of the many interesting places in India, to describe the flora of the country and the customs of its inhabitants, the many forms of sport which await both the sojourner and the tourist, to explain new ways of doing old things on railways and to give particulars of the many industries and works for which India is famed. Supplements to the magazine dealing more

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.



Bombay Centıal Station—construction in progress.

particularly with local staff news have continued to be published by the North Western, East Indian, Great Indian Peninsula and Eastern Bengal Railways. Some are published partly in English and partly in the vernacular known to the majority of the employees.

London Bureau.—The London Bureau moved into its new and more commodious office at 57 Haymarket. This office is situated at the corner of Norris Street and the Haymarket in that part of London in which all the leading shipping lines, tourist agencies and foreign publicity bureaux have their principal passenger offices and is, therefore, well placed to compete with other similar offices. The decoration of the reception hall and main office is in Andaman padauk timber, while the floor is of polished gurgun blocks. The furniture is constructed of Indian laurel wood. Special steps have been taken to make the window displays and general scheme of decoration attractive. It was also decided to open a branch office in India House, Aldwych. Advertising in the leading English journals, participation in the principal exhibitions and fairs, the showing of films, the display of posters, etc., were some of the methods employed to attract tourists to India.

New York Bureau.—With a view to the opening of a publicity bureau in America, the Chief Publicity Officer Indian State Railways and the resident manager designate of the Bureau were sent to America early in 1929. An office was temporarily opened at 342 Madison Avenue, New York, in accommodation kindly provided free by the Canadian Pacific Railroad in their offices. The New York Bureau continued to consolidate its position during the summer months, and by the autumn it became evident that, if India wished to compete with other countries for the tourist traffic from America, it was essential that separate offices should be rented in a good site and the expenditure on advertising considerably increased. Accordingly it was decided to rent a ground floor office at 38 East 57th Street, in a new thirteen storeyed building. No. 38 East 57th Street, which is now called " Delhi House " lies between Fifth and Madison Avenues in a locality in which all the leading tourist bureaux have their main passenger offices, and so is well placed to compete for tourist traffic. Publicity campaign in America takes a different form to that in England and to be successful must adapt itself to local conditions. Good action photographs, lectures with or without films or lantern slides, window displays in the leading shops and banks, broadcasting, etc., are among the forms of publicity undertaken by this bureau in addition to advertisements of a high standard in newspapers and periodicals.

It is too early to judge yet the results of the publicity carried out in England and America, but reports received indicate a growing desire among all countries, especially America, for travel in India. It is, however, feared that a temporary check in this direction may be experienced owing to the present political conditions in India.

Publicity in India.—Conducted tours for residents in India were run on several railways, by which people, who would not have travelled otherwise, were encouraged to undertake journeys to the mutual benefit of the travellers and railways concerned.

Publicity in connection with third class travel has also received considerable attention, but, as the conditions governing this class of traffic vary on different railways, the efforts made to encourage the potential third class passenger to travel come within the ambit of the publicity officer on each railway, the Central Publicity Bureau assisting in every way possible by the production of films, etc. That the third class passenger can be encouraged to travel has been shown on more than one railway, as for example on the Bombay, Baroda and Central India Railway, metre gauge section, during 1929-30. In this particular area crops had failed and economic conditions were below normal, yet as a result of personal canvassing, during a period of nine months twenty special trains were run carrying passengers, the great majority of whom would not have ordinarily travelled. The net profit to the Bombay, Baroda and Central India Railway is estimated at some Rs. 90,000, exclusive of the profit to other railways over which some of these

trains ran. Advertising in the ordinary sense without special canvassing would have been powerless to achieve this by itself. It is essential that there should also be something to advertise and good service. The 'something to advertise' was a visit to places of interest and reduced fares and 'good service' included the provision of adequate accommodation, suitable catering arrangements, etc. Third class conducted specials were also run on a smaller scale on other railways.

118. A brief account of the publicity work on certain railways is given below.

Bengal and North-Western Railway.—This railway has not embarked on an extensive campaign of advertising, but has done a good deal in the way of making its public time table simpler and distinctly attractive. This now contains a valuable historical record of the local places of interest. These notes have provoked wide comment and attracted appreciative notice and are of special value to Budhist pilgrims visiting the holy places in Northern India.

Bengal Nagpur Railway.—A Publicity Officer was sanctioned during the year and the officer selected took over his duties from 16th October 1929.

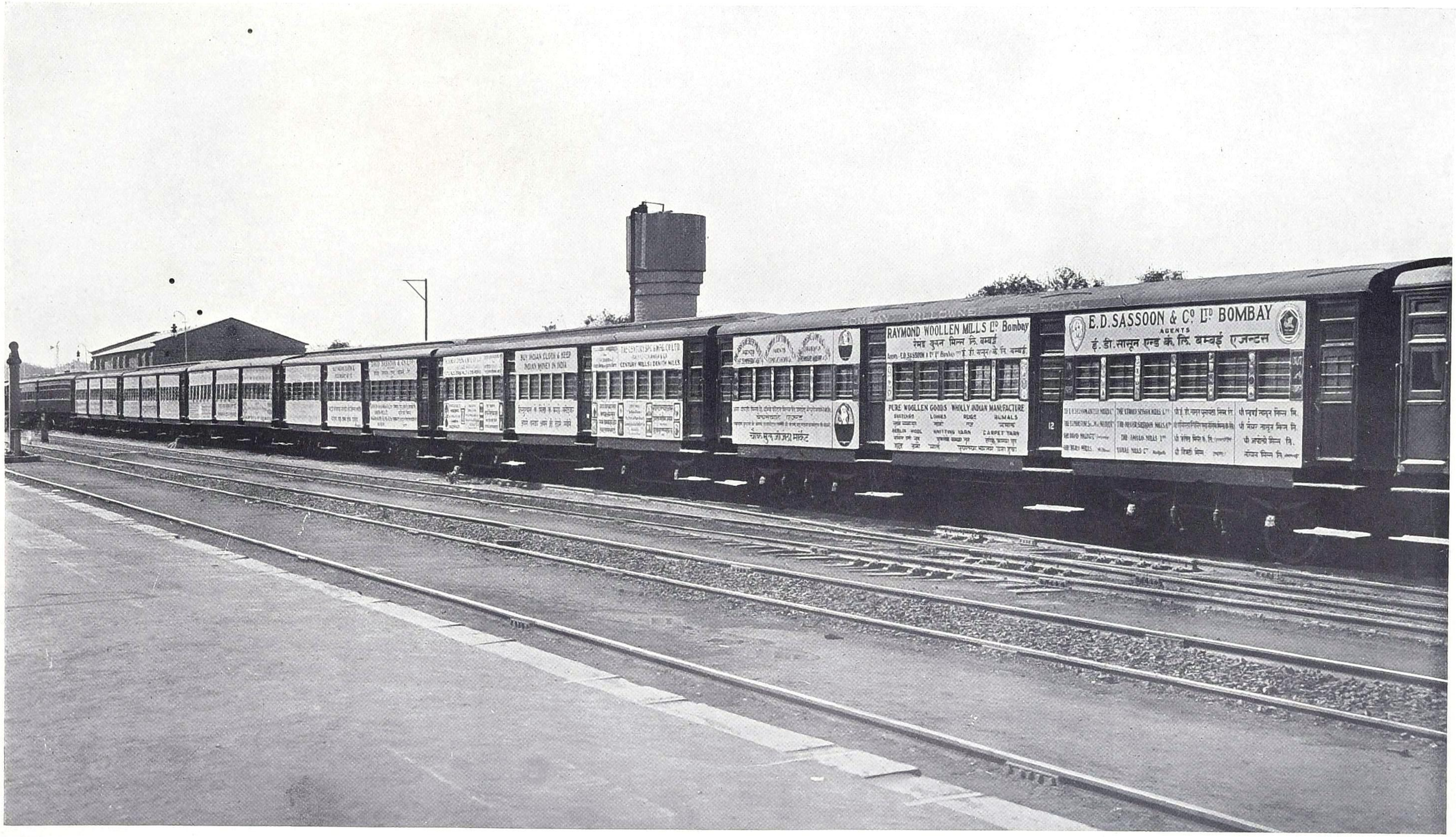
Efforts were made on two occasions to stimulate traffic to melas by beat of drums and the distribution of leaflets in the interior of the villages, describing the religious significance of the melas. The number of passengers visiting the melas increased considerably, and, as far as can be judged, the results of these two publicity campaigns were satisfactory. No conducted tours were organised in this year, but investigations in this connection are now being made, which it is anticipated will lead to a number of tours being arranged.

A directory of commodities was published in January 1929 and a second edition is to be published in January 1931. It shows the commodities in alphabetical order, the names and addresses of individual merchants dealing in them, the names of the nearest stations, and the headquarters of the Commercial districts in which the stations concerned are situated. The directory was compiled with a view to bringing producers and buyers in close touch with one another in the hope that internal trade will be stimulated thereby and result in bringing increased traffic to the railway.

Bombay, Baroda and Central India Railway.—In addition to the customary accepted methods employed for stimulating traffic throughout the year, a definite step was taken by the Publicity branch, with the assistance of the Traffic department, to establish a higher standard of service to the public and thus create material for advertising with the object of making it more effective. Amongst other measures adopted to this end the provision of a new central enquiry office at the general offices, equipped with all the necessary facilities for supplying prospective passengers and tourists with accurate details regarding fares and travel amenities is considered worthy of record. That the service rendered by this and other enquiry offices situated at Colaba terminus and the Taj Mahal hotel is appreciated by the public is very evident from the statistics available of the increasing number of enquiries received not only from local sources but from all parts of India. In this connection it may be observed that the selection and careful training of the staff required for this purpose assisted materially in fulfilling the object desired.

Eight special trains were run during the cold weather season 1929-30 for overseas tourists. In addition to these there were four side trips from Agra (Idgah) to Fatehpur Sikri. The revenue derived from these specials exceeded the net amount of last year by Rs. 8,500.

An excursion special was run during the Christmas holidays in conjunction with Messrs. Jeena and Company for 2nd class passengers. This was advertised in local newspapers, by leaflets and the use of sandwichmen in the streets of Bombay. A hundred passengers took advantage of the facilities offered and the itinerary included Jaipur, Chitorgarh, Udaipur and Delhi.



Bombay Millowners' special train.

Following the precedent of last year an excursion special was advertised for a tour of about 5,200 miles from Bombay to Kashmir and places of interest in the north at reduced rates. The popularity of the scheme can be evinced from the fact that there was a heavy demand for tickets after the booking was closed, with the result that several applications had to be refused owing to lack of accommodation. This train carried 85 second class and 183 third class passengers. The scheme was a complete success and the special train left Colaba on the 25th August.

A special train for Parsi excursionists was run from Bombay to Udvada and back on Sunday the 27th October 1929, for 250 third class passengers.

Burma Railways.—The main field of publicity in Burma is the third class passenger, and a free distribution of the picture of a pagoda of note, with a brief account of its legend, will do more to help this traffic, than any other form of advertisement. This point is not lost sight of. A feature of the year's work, however, was the initiation of advertising trains which received favourable response from the commercial world. Another feature of note was that from about the end of the year under review a railway cinema car went out every month to out-stations and exhibited films in the general interests of publicity.

Eastern Bengal Railway.—The usual winter and pujah bazar specials and the demonstration train were run during the year with satisfactory financial results. Three upper class and eight third class conducted excursions were arranged, the net revenue amounting to Rs. 8,730. A special tour of Brahmo girls' school students to Darjeeling was an innovation which proved successful. Special trains conveying American tourists from the S.S. "Empress of Australia", "Resolute", "Columnus" and "Belgenland" were run during the year, the total number carried by these specials being 770. Advantage was taken of the opportunity afforded by the running of these specials to distribute publicity literature widely.

East Indian Railway.—A second cinema car was placed in service in September 1929. A total of 354 free open air shows attended by audiences totalling 412,100 persons were given during 1929-30 by the two cars.

The poultry demonstration car operated during the cold weather of 1929-30 under the auspices of the United Provinces Poultry Association, visiting 45 different stations, where suitable lectures illustrated by lantern slides or cinema films were delivered, and literature in English and the vernaculars distributed.

The railway hotel at Gaya continued to be run under the direct management of the railway, the catering being done on a contract basis. During the year 517 visitors stayed at the hotel, the highest number being registered in January 1930, *viz.*, 76, as compared with the highest previous number of 49 for any one month in the preceding year.

Great Indian Peninsula Railway.—Publicity through the medium of booklets was largely focussed on third class traffic. Two series of booklets in Marathi advertising the Pandharpur fair were prepared and widely distributed in conjunction with the usual poster campaign. It is claimed that to this advertising is largely due the very satisfactory increase of nearly 60 per cent. in pilgrim traffic to this place during July 1929.

Strenuous efforts were made to attract pilgrims from the Deccan and Southern India to the Kumbh Mela at Allahabad. The attendance (which was estimated to be more than five millions) is stated to be a record for this festival, which occurs only once in twelve years. In co-operation with the Madras and Southern Mahratta Railway, South Indian Railway and the Mysore Railways, illustrated booklets in English, Hindi, Marathi, Tamil, Telugu and Kanarese were distributed broadcast in order to stimulate interest in the mela.

The Poona racing season was again advertised by the extensive distribution of attractive booklets in English, as well as folders in Gujarathi. In spite of the very heavy depression throughout the period under review, it is

satisfactory to note that the special race trains of all classes were well patronised and returns were definitely better than the previous season, showing an increase of 10 per cent. in the total earnings from this traffic.

A number of letter-press posters and handbills were prepared and issued by the Publicity branch, dealing with travel facilities during Divali, Christmas and Easter vacations; also on the occasion of special tours like the Great Indian Peninsula Bazar special and the Bombay Millowners' Association special.

An attempt was successfully made during Christmas, 1929, to run special trains over the Great Indian Peninsula and Bombay, Baroda and Central India Railways on a scheme of " combined circular travel ". Two parties consisting of 100 persons each left Victoria Terminus and Colaba respectively on the 23rd of December. The itineraries included halts at the principal places of interest on the two railways, the parties transhipping at Delhi from one train to the other.

Special week-end tours were also arranged for visits to Ellora Caves and to the Ajanta Caves in the Nizam's Dominions.

North Western Railway.—A conducted tour to Iraq in conjunction with the British India Steam Navigation Company and the Iraq Railways, was organised in December 1929. Though the number forming the party was somewhat smaller than anticipated, the tour in other respects proved a success.

A special train with 750 Sikh pilgrims, visiting various places of pilgrimage, was organised in February 1930. The special left Lahore on the 23rd February and returned on the 27th March 1930. Passengers were accommodated at the scale of 44 to each bogie carriage with a carrying capacity of 110. A goods wagon attached to the train served as a kitchen and stores godown, and a third class compartment was set apart for use as a Gurdwara.

In connection with the Imperial Horse Show at Delhi in February 1930 a North Western Railway publicity bureau and enquiry office was opened for the convenience of visitors and for advertising purposes of railways generally.

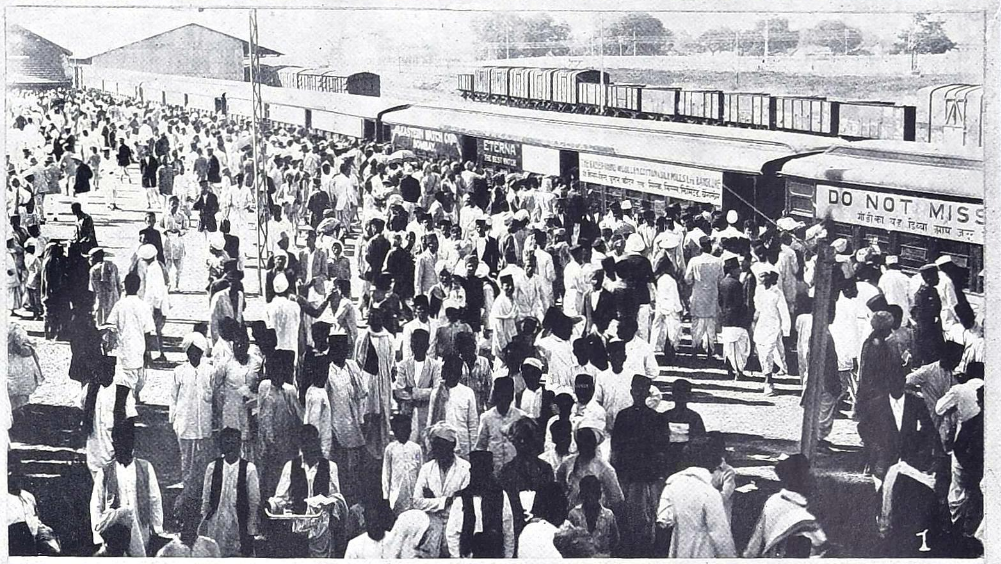
South Indian Railway.—The stimulation of third class passenger traffic continued to receive the special attention of the Publicity department, and among the steps taken during the year to attract traffic were the issue of a vernacular magazine and the distribution of leaflets in the vernaculars. As usual, enquiry and booking offices were opened at the various festival centres, and pamphlets and leaflets were distributed to the public from these offices.

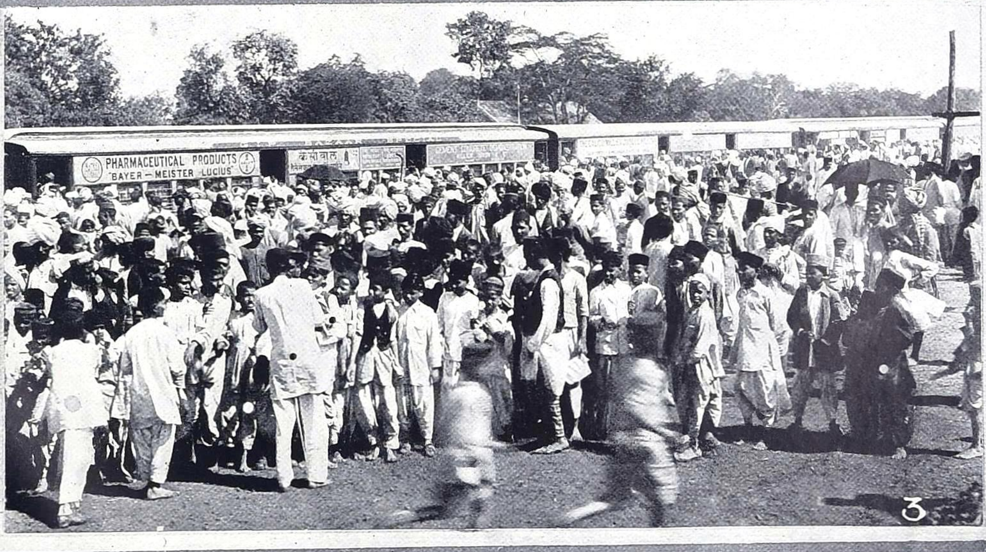
Coloured posters and illustrated notices were exhibited at all large stations and important towns. An illustrated booklet containing information about health resorts, hill stations, etc., on the railway is now under print.

119. Bazar specials.—Bazar specials were run during the year on the Assam Bengal, Eastern Bengal, Great Indian Peninsula and Burma Railways. The Assam Bengal Railway, encouraged by the success of the first bazar special which was run in December 1928 over one district, ran a similar train over the whole railway in August-September 1929. The train visited 26 of the principal stations and over 141,000 people passed through it.

After much preliminary advertising 10 firms were induced to take part in the Great Indian Peninsula Divali special train, which left Bombay on the 15th October. The train was on tour for 4 weeks and halted at 25 important stations for approximately 12 hours at each. The object in view was to attract as many people as possible to the halting stations to see the train. This was carried out by means of suitably coloured posters and handbills and also by beat of drums. As a result of this, approximately 4½ lakhs of people visited the train and exhibitors made extensive cash sales in addition to booking substantial orders. The Bombay millowners also organised a special demonstration train which visited a large number of stations on the Great Indian Peninsula, North Western and East Indian Railways.

GREAT INDIAN PENINSULA RAILWAY.





1. G. I. P. Bazar special at Nasik.
2. G. I. P. Bazar special at Nagpur.
3. G. I. P. Bazar special at Burhanpur.

120. Anti-malarial work.—A brief account is given below of the measures taken by certain railways for the prevention of malaria.

Bombay, Baroda and Central India Railway.—Systematic permanent preventive work, such as making water cisterns mosquito proof, filling in or stocking wells with "kajuri" and "piku" fish, draining or filling small hollows and treating the temporary and permanent breeding places with pesterine M. D. B. and Paris green was carried out.

There is considerable antagonism among grass growers to anti-larvae measures, since the same factors favour the production of grass and of larvae, and the failure to dispense with the grass farms from Elphinstone Road to Mahim has resulted in the prevalence of a large number of mosquitoes in this area. Similarly septic tanks situated in non-railway areas at Bandra and Santa Cruz without proper drainage of the effluent are contributory causes for the non-disappearance of mosquitoes from these localities. The co-operation of the Bombay and Bandra Municipalities and the Great Indian Peninsula Railway has been invited and these authorities are trying to rectify the defects.

Statistical data based on observation in the three railway dispensaries within the city of Bombay, where anti-malarial work is in force, shows a general fall in figures, which, however, is clearly indicated in figures for the whole system.

Bengal Nagpur Railway.—Anti-malarial measures taken at Dangoaposi and Waltair were very successful. Anti-malarial work in the harbour area of Vizagapatam was fairly good, but that in the town (Municipal and District Board areas) was far from satisfactory. Khurda Road station was brought under malarial control from 1st August 1929.

The prevalence of malaria handicapped the Bridge department, which is engaged in the work of strengthening of bridges on the Katni branch. Anti-malarial measures were, however, taken up by two inspectors and sickness was reduced to some extent.

In connection with the Raipur-Vizianagram construction a special hospital has been maintained at Satikona and the most energetic anti-malarial campaign has been carried out in all its aspects, against larval forms of mosquitoes by oiling of their breeding places, against adults by the weekly spraying of quarters, and against the disease itself by systematic treatment of all sick.

Great Indian Peninsula Railway.—13,783 cases of malaria were reported during the year, the percentage of malaria incidence to the strength of staff being 12·52. The corresponding figure for the previous year was 19·54. The reduction of 10,005 cases, or the equivalent of 42·06 per cent. compared with those reported in the year 1928-29, is due partly to the more precise evidence required for diagnosis depending more on actual finding in the laboratories. Thus the number of blood films examined for malaria has risen from 7,042 to 9,314, with an average positive finding in 24·57 per cent. of examinations. Regular inspection of railway areas was undertaken by health staff generally under the direct control of the health assistants and the systematic destruction of larvae.

Madras and Southern Mahratta Railway.—Investigations as to the prevention of malaria were made with a view to formulating definite anti-malarial measures at places where incidence of malaria was known to be high. At some stations, it is comparatively easy to devise simple measures which improve the local conditions. At other stations, the necessary preventive measures are more expensive or difficult, sometimes owing to the railway having control over only a limited area. As the work has been started only quite recently, a detailed report of the results obtained cannot be furnished at present, but, from the statistics so far available, it is observed that at some of the stations at which investigations have been carried out, much has been done to combat malaria and its evil effects. An apparatus for chlorinating water has been installed at Pakala station and is working satisfactorily. A

similar apparatus is being installed at each of the following stations:—Tiruttani, Dronachellam, Mangalagiri, Tenali and Hospet.

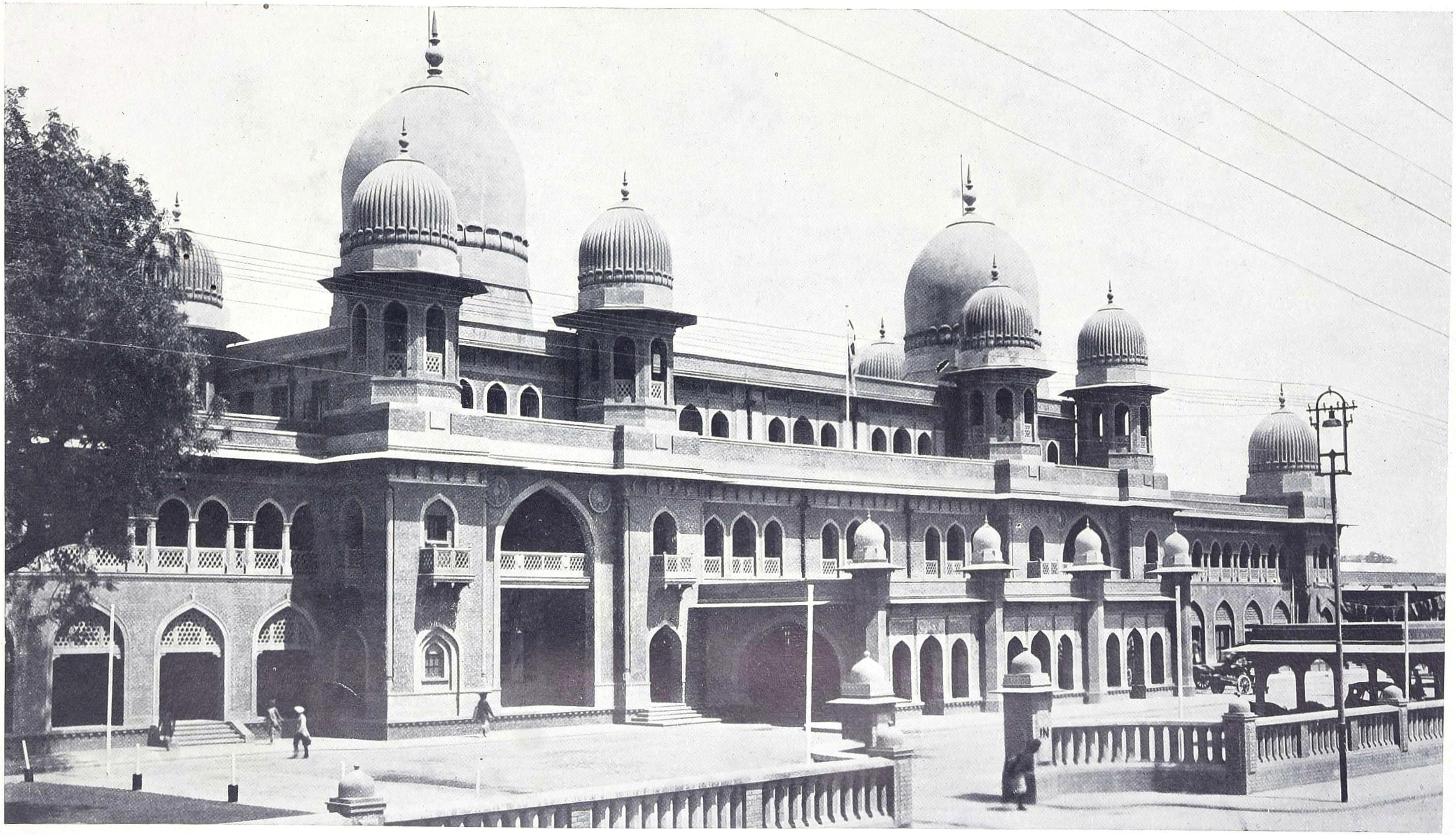
North Western Railway.—The usual anti-malarial measures were taken up throughout the line, but climatic conditions were such as to make it impossible to prevent excessive breeding of mosquitoes and the work was heavily handicapped by excessive sickness among the staff. There was a severe epidemic of malaria on the Sind section of the line owing to the fact that this part of the country is low-lying and subject to inundation by floods. The consequent collection of water all over this section during the monsoon provided innumerable places for mosquitoes, and it was impossible to deal with these in an adequate manner in a country such as this, where the normal rainfall is so scanty. It is considered that the only way to cope with such a position as arose this year is to protect the staff themselves against the bites of mosquitoes, and the best means whereby this can be effected is under consideration. It is not an easy problem, because it is difficult to obtain the co-operation of a staff, largely composed of persons who do not realise the importance of the measures advocated for their protection.

A senior district medical officer was placed on special duty to visit the malaria affected stations in Sind. A considerable number of extra staff was engaged and additional supplies of medicines made. The mortality among the railway population was reported to be considerably lower than among the civil population.

Although there was an excessive amount of sickness among the staff in the Punjab due to malaria, it was considerably less severe than in Sind.

121. Special trains.—A party of 27 boys from certain public schools in England with 4 directors in charge toured in India from the end of November to the first week in February, travelling by special train over the Great Indian Peninsula, Bengal Nagpur, East Indian, Eastern Bengal, Bombay, Baroda and Central India, North Western, Bikaner State, Jodhpur and Udaipur-Chitorgarh Railways. The tour had been arranged by the School Empire Tour Committee in England, the general object being to give the boys an insight into the administration and resources of the country and also to provide the usual opportunities for sight-seeing and relaxation.

The Royal Commission on Labour also toured throughout India from about the middle of October 1929 to the third week in March 1930, a special train being provided for their journey by railway.



Cawnpore Central Station.

APPENDIX A.

List showing Railway Administrations in India alphabetically arranged under three classes according to their gross earnings with the working and owning agencies thereof.

[NOTE.—Railways under construction or sanctioned for construction on the 31st March 1930, are shown in italics.]

RAILWAY SYSTEM.		LINES COMPRISED IN THE SYSTEM.		
Name.	Worked by	Name.	Gauge.	Owned by
1	2	3	4	5
		CLASS I.—RAILWAYS.		
1. Assam Bengal . .	Assam Bengal Railway Company.	(a) Assam Bengal .	3′ 3⅜″	State.
		(b) Chaparmukh Silghat	3′ 3⅜″	Branch line Company under guarantee terms.
		(c) Katakhal Lalabazar	3′ 3⅜″	Ditto.
		(d) Mymensingh Bhairab Bazar.	3′ 3⅜″	Branch line Company under guarantee and rebate terms.
2. Bengal and North-Western.	Bengal and North-Western Railway Company.	(a) Bengal and North-Western.	3′ 3⅜″	Company subsidized by the Government of India.*
		(b) *Mashrak-Thawe* .	3′ 3⅜″	State.
		(c) Tirhoot . . .	3′ 3⅜″	Do.
3. Bengal Nagpur .	Bengal Nagpur Railway Company.	(a) Bengal Nagpur .	5′ 6″	State.
		(b) Anuppur-Manendragarh.	5′ 6″	Do.
		(c) Mayurbhanj . .	2′ 6″	Branch Line Company under rebate terms.
		(d) Parlakimedi Light .	2′ 6″	Indian State.
		(e) Purulia-Ranchi .	2′ 6″	State.
		(f) Raipur-Dhamtari .	2′ 6″	Do.
		(g) Satpura . . .	2′ 6″	Do.
		(h) Tumsar-Tirodi Light†	2′ 0″	Do.
4. Bombay, Baroda and Central India.	Bombay, Baroda and Central India Railway Company.	(a) Bombay, Baroda and Central India.	5′ 6″	State.
		(b) Nagda-Ujjain . .	5′ 6″	Indian State.
		(c) Petlad-Cambay (Anand-Tarapur Section).	5′ 6″	Ditto.
		(d) Petlad-Cambay (Tarapur-Cambay Section).	5′ 6″	Ditto.
		(e) Tapti-Valley . .	5′ 6″	Branch line Company under rebate terms.
		(f) Bombay, Baroda and Central India.	3′ 3⅜″	State.
		(g) Ahmedabad-Parantij	3′ 3⅜″	Branch line Company under rebate terms.
		(h) Dhrangadra . .	3′ 3⅜″	Indian State.
		(i) Gaekwar's Mehsana .	3′ 3⅜″	Ditto.
		(j) Jaipur State . .	3′ 3⅜″	Ditto.
		(k) Palanpur-Deesa .	3′ 3⅜″	Ditto.‡
		(l) Bombay, Baroda and Central India.	2′ 6″	State.
		(m) Champaner-Shivrajpur-Pani Light.	2′ 6″	Branch line Company under rebate terms.
		(n) Godhra-Lunavada .	2′ 6″	Ditto.
		(o) Nadiad-Kapadvanj .	2′ 6″	Branch line Company under rebate terms.
		(p) Piplod-Devgad-Baria	2′ 6″	Indian State.
		(q) Rajpipla State .	2′ 6″	Ditto.
5. Burma . . .	State . . .	(a) Burma . . .	3′ 3⅜″	State.

* Receives land only from Government.

† Converted into broad gauge from 15th February 1930.

‡ Owned jointly by Government and Palanpur Durbar.

Railway system.		Lines comprised in the system.		
Name.	Worked by	Name.	Gauge.	Owned by
1	2	3	4	5
		CLASS I.—RAILWAYS—*contd.*		
6. Eastern Bengal.	State	(*a*) Eastern Bengal	5′ 6″	State.
		(*b*) Sara Sirajganj	5′ 6″	Branch line Company under rebate terms.
		(*c*) Eastern Bengal	3′ 3⅜″	State.
		(*d*) Cooch Behar State	3′ 3⅜″	Indian State.
		(*e*) Eastern Bengal	2′ 6″	State.
		(*f*) Khulna-Bagerhat	2′ 6″	Branch line Company under rebate terms.
7. East Indian	State	(*a*) East Indian	5′ 6″	State.
		(*b*) Hardwar-Dehra	5′ 6″	Branch line Company under guarantee terms.
		(*c*) South Bihar	5′ 6″	Branch line Company.
		(*d*) Cawnpore-Burhwal link.*	3′ 3⅜″	State.
8. Great Indian Peninsula.	State	(*a*) Great Indian Peninsula.	5′ 6″	State.
		(*b*) Bhopal-Itarsi (Indian State Section).	5′ 6″	Indian State.
		(*c*) Bhopal-Ujjain	5′ 6″	Ditto.
		(*d*) Bina-Goona-Baran	5′ 6″	Ditto.
		(*e*) *Dharwa-Pusad*	2′ 6″	State.
		(*f*) Dhond-Baramati	2′ 6″	Branch line Company under rebate terms.
		(*g*) Ellichpur-Yeotmal	2′ 6″	Ditto.
		(*h*) Pachora-Jamner	2′ 6″	Ditto.
		(*i*) Pulgaon-Arvi	2′ 6″	Ditto.
9. Jodhpur	Indian State	(*a*) Jodhpur	3′ 3⅜″	Indian State.
		(*b*) Jodhpur-Hyderabad (British Section).	3′ 3⅜″	State.
		(*c*) Mirpur Khas-Khadro	3′ 3⅜″	Company subsidized by the Government of India.†
10. Madras and Southern Mahratta.	Madras and Southern Mahratta Railway Company.	(*a*) Madras and Southern Mahratta.	5′ 6″	State.
		(*b*) Kolar Goldfields	5′ 6″	Indian State.
		(*c*) Tenali-Repalle	5′ 6″	District Board.
		(*d*) Madras and Southern Mahratta.	3′ 3⅜″	State.
		(*e*) Alnavar-Dandeli (Provincial).	3′ 3⅜″	Do.
		(*f*) Bangalore-Harihar	3′ 3⅜″	Indian State.
		(*g*) Bezwada-Masulipatam.	3′ 3⅜″	District Board.
		(*h*) Hindupur (Yesvantpur-Mysore Frontier).	3′ 3⅜″	Indian State.
		(*i*) Kolhapur State	3′ 3⅜″	Ditto.
		(*j*) Sangli State	3′ 3⅜″	Ditto.
		(*k*) West of India Portuguese.	3′ 3⅜″	Foreign Country.
11. Nizam's Guaranteed State.	Nizam's Guaranteed State Railways Company.	(*a*) Nizam's Guaranteed State.	5′ 6″	Company guaranteed by Indian State.
		(*b*) Bezwada Extension	5′ 6″	State.
		(*c*) Karepalli-Kothagudium.	5′ 6″	Indian State.
		(*d*) Kazipet-Balharshah	5′ 6″	Ditto.
		(*e*) Vikrabad-Bidar	5′ 6″	Ditto.
		(*f*) Dhone-Kurnool-British Frontier.	3′ 3⅜″	State.
		(*g*) Hingoli Branch	3′ 3⅜″	Indian State.
		(*h*) Hyderabad Godavari Valley.	3′ 3⅜″	Company guaranteed by Indian State.
		(*i*) Parbhani-Purli	3′ 3⅜″	Indian State.
		(*j*) Secunderabad-British Frontier.	3′ 3⅜″	Ditto.

* Under running power agreement the B. and N.-W. Railway Company run and haul their trains and traffic over this line.

† Receives land only from Government.

Railway system.		Lines comprised in the system.		
Name.	Worked by	Name.	Gauge.	Owned by
1	2	3	4	5
		CLASS I.—RAILWAYS—*concld.*		
12. North Western .	State	(a) North Western .	5′ 6″	State.
		(b) Amritsar Patti .	5′ 6″	Branch line Company under rebate terms.
		(c) Bahawalnagar Cholistan.	5′ 6″	Indian State.
		(d) Hoshiarpur Doab (Jullundur Mukerian).	5′ 6″	Branch line Company under rebate terms.
		(e) Hoshiarpur Doab (Phagwara-Rahon).	5′ 6″	Ditto.
		(f) Jammu and Kashmir (Indian State Section).	5′ 6″	Indian State.
		(g) Jind Panipat (Indian State Section).	5′ 6″	Ditto.
		(h) Khanpur-Chachran .	5′ 6″	Ditto.
		(i) Ludhiana-Dhuri Jakhal.	5′ 6″	Ditto.
		(j) Mandra-Bhaun .	5′ 6″	Branch line Company under rebate terms.
		(k) Rajpura Bhatinda .	5′ 6″	Indian State.
		(l) Sirhind Rupar .	5′ 6″	Ditto.
		(m) Sialkot Narowal .	5′ 6″	Branch line Company under rebate terms.
		(n) Jacobabad-Kashmor.	2′ 6″	Ditto.
		(o) Kalka-Simla . .	2′ 6″	State.
		(p) Kangra-Valley .	2′ 6″	Do.
		(q) Kohat-Thal . .	2′ 6″	Do.
		(r) Larkana-Jacobabad .	2′ 6″	Branch line Company under rebate terms.
		(s) Trans-Indus (Kalabagh-Bannu).	2′ 6″	State.
		(t) Zhob Valley	2′ 6″	Do.
		(u) Dera Ismail Khan-Tank Decauville.*	2′ 0″	Do.
13. Rohilkund and Kumaon.	Rohilkund and Kumaon Railway Company.	(a) Rohilkhund and Kumaon.	3′ 3⅜″	Company subsidized by the Government of India.
		(b) Lucknow-Bareilly .	3′ 3⅜″	State.
14. South Indian . .	South Indian Railway Company.	(a) South Indian . .	5′ 6″	Do.
		(b) South Indian . .	3′ 3⅜″	Do.
		(c) Nilgiri . . .	3′ 3⅜″	Do.
		(d) Peralam-Karaikkal .	3′ 3⅜″	Foreign Country.
		(e) Podanur-Pollachi .	3′ 3⅜″	District Board.
		(f) Pondicherry . .	3′ 3⅜″	Foreign Country.
		(g) Shoranur-Cochin .	3′ 3⅜″	Indian State.
		(h) Tinnevelly-Tiruchendur.	3′ 3⅜″	District Board.
		(i) Travancore (British Section).	3 3⅜″	State.
		(j) Travancore (Indian State Section).	3′ 3⅜″	Indian State.
		(k) Morappur-Hosur .	2′ 6″	State.
		(l) Tirupattur-Krishnagiri.	2′ 6″	Do.
		CLASS II.—RAILWAYS.		
1. Barsi Light . .	Barsi Light Railway Company.	(a) Barsi Light . .	2′ 6″	Company subsidized by the Government of India.†
2. Bengal Dooars . .	Bengal Dooars Railway Company.	(a) Bengal Dooars .	3′ 3⅜″	Company subsidized by District Board.
		(b) Bengal Dooars Extensions.	3′ 3⅜″	Line subsidized by the Government of India.†
3. Bhavnagar State .	Indian State . .	(a) Bhavnagar State .	3′ 3⅜″	Indian State.
4. Bikaner State . .	Ditto . .	(a) Bikaner State .	3′ 3⅜″	Ditto.

* Closed for traffic from 1st October 1928.
† Receives land only from Government.

Railway system.		Lines comprised in the system.		
Name.	Worked by	Name.	Gauge.	Owned by
1	2	3	4	5
CLASS II.—RAILWAYS—*concld.*				
5. Darjeeling Himalyan.	Darjeeling Himalayan Railway Company.	(*a*) Darjeeling Himalayan	2′ 0″	Company subsidized by Local Government.
		(*b*) Darjeeling Himalyan Extensions.	2′ 0″	Branch line Company under rebate terms.
6. Dibru-Sadiya	Assam Railways and Trading Company.	(*a*) Dibru-Sadiya	3′ 3⅜″	Company subsidized by Local Government.
		(*b*) Ledo and Tikak-Margherita Colliery.	3′ 3⅜″	Unassisted Company.
7. Gaekwar's Baroda State.	Indian State	(*a*) Gaekwar's Baroda State.	2′ 6″	Indian State.
		(*b*) Bodeli Chhota Udaipur.	2′ 6″	Ditto.
8. Gondal	Ditto	(*a*) Gondal	3′ 3⅜″	Ditto.
		(*b*) Jetalsar Rajkot	3′ 3⅜″	Ditto.
		(*c*) Khijadiya Dhari	3′ 3⅜″	Ditto.
9. Howrah-Amta Light.	Howrah-Amta Light Railway Company.	(*a*) Howrah-Amta Light.	2′ 0″	Company subsidized by District Board.
10. Jamnagar and Dwarka	Jamnagar and Dwarka Railway Company.	(*a*) Jamnagar	3′ 3⅜″	Indian State.
		(*b*) Jamnagar-Dwarka	3′ 3⅜″	Branch line Company under guarantee and rebate terms.†
		(*c*) Okhamandal	3′ 3⅜″	Indian State.
11. Junagad State	Indian State	(*a*) Junagad State.	3′ 3⅜″	Ditto.
12. Morvi	Ditto	(*a*) Morvi	3′ 3⅜″	Ditto.
13. Mysore	Ditto	(*a*) Mysore	3′ 3⅜″	Ditto.
		(*b*) Bangalore-Chik Ballapur Light.	2′ 6″	Company guaranteed by Indian State.
		(*c*) Kolar District	2′ 6″	Indian State.
		(*d*) Tarikere-Narasimharajapura Light.	2′ 0″	Ditto.
14. Shahdara (Delhi) Saharanpur Light.	Shahdara (Delhi) Saharanpur Light Railway Company.	(*a*) Shahdara (Delhi) Saharanpur Light.	2′ 6″	Company subsidized by the Government of India.*
CLASS III.—RAILWAYS.				
1. Aden‡	State	(*a*) Aden	3′ 3⅜″	State.
2. Ahmadpur-Katwa	Ahmadpur-Katwa Railway Company.	(*a*) Ahmadpur Katwa	2′ 6″	Branch line Company under guarantee terms.
3. Arrah-Sasaram Light.	Arrah-Sasaram Light Railway Company.	(*a*) Arrah Sasaram Light	2′ 6″	Company subsidized by District Board.
4. Bankura-Damoodar River.	Bankura-Damoodar River Railway Company.	(*a*) Bankura Damoodar River.	2′ 6″	Branch line Company under guarantee terms.
5. Baraset-Basirhat Light	Baraset-Basirhat Light Railway Company.	(*a*) Baraset Basirhat	2′ 6″	Company subsidized by District Board.
6. Bengal Provincial	Bengal Provincial Railway Company.	(*a*) Bengal Provincial	2′ 6″	Unassisted Company.
		(*b*) Dasghara Jamalpurgunj.	2′ 6″	Branch line Company under guarantee terms.
7. Bukhtiarpur-Bihar Light.	Bukhtiarpur-Bihar Light Railway Company.	(*a*) Bukhtiarpur Bihar Light.	2′ 6″	Company subsidized by District Board.
8. Burdwan-Katwa	Burdwan-Katwa Railway Company.	(*a*) Burdwan Katwa	2′ 6″	Branch line Company under guarantee terms.
9. Cutch State	Indian State	(*a*) Cutch State	2′ 6″	Indian State.

* Receives land only from Government.
† Financed on rebate terms given by the Jamnagar Durbar.
‡ Closed for traffic from 1st August 1929.

Railway system.		Lines comprised in the system.		
Name. 1	Worked by 2	Name. 3	Gauge. 4	Owned by 5

CLASS III.—RAILWAYS—*concld.*

10. Dehri-Rohtas Light .	Dehri-Rohtas Light Railway Company.	(a) Dehri-Rohtas Light .	2′ 6″	Company subsidized by the Government of India.
11. Dholpur-Bari . .	Indian State . .	(a) Dholpur-Bari . .	2′ 6″	Indian State.
12. Futwah-Islampur .	Futwa-Islampur Light Railway Company.	(a) Futwa-Islampur .	2′ 6″	Branch line Company under guarantee terms.
13. Gwalior Light . .	Indian State . .	(a) Gwalior Light .	2′ 0″	Indian State.
14. Howrah-Sheakhala-Light.	Howrah-Sheakhala-Light Railway Company.	(a) Howrah-Sheakhala Light.	2′ 0″	Company subsidized by District Board.
15. Jagadhri Light .	Jagadhri Light Railway Company.	(a) Jagadhri Light .	2′ 0″	Unassisted Company.
16. Jessore-Jhenidah .	Jhenidah Railway Syndicate.	(a) Jessore-Jhenidah .	2′ 6″	Ditto
17. Jorhat (Provincial) .	River Steam Navigation Company and India General Navigation and Railway Company.	(a) Jorhat (Provincial) .	2′ 0″	State.
18. Kalighat-Falta .	Kalighat-Falta Railway Company.	(a) Kalighat-Falta .	2′ 6″	Branch line Company under guarantee terms.
19. Kulasekarapatnam Light.	East India Distilleries and Sugar Factories.	(a) Kulasekarapatnam Light.	2′ 0″	Unassisted Company.
20. Matheran Light .	Matheran Steam Tramway Company.	(a) Matheran Light .	2′ 0″	Company subsidized by the Government of India.*
21. Porbandar State .	Indian State . .	(a) Porbandar State .	3′ 3⅜″	Indian State.
22. Tezpore-Balipara Light	Tezpore-Balipara Steam Tramway Company.	(a) Tezpore-Balipara Light.	2′ 6″	Company subsidized by District Board.
23. *Tirupati-Tiruchanur Light.*	Messrs. R. S. Manien & Co.	(a) *Tirupati-Tiruchanur Light.*	2′ 0″	Unassisted Company.
24. Trivellore Light .	T. Namberumal Chetty and Sons.	(a) Trivellore Light .	2′ 0″	Ditto.
25. Udaipur-Chittorgarh .	Indian State . .	(a) Udaipur-Chittorgarh .	3′ 3⅜″	Indian State.

* Receives land only from Government.

APPENDIX B.

Notes on the relation of the Government to Railways in India.

(*Reprinted from the Report for 1914-15 and brought upto date.*)

Diversity of Relations between the State and Railways.—One of the special features of the Indian Railway system is the diversity of conditions that prevails in the relation of the State to the various lines in respect of ownership and control. Of the important lines situated in British India or in which the Government of India is interested, five [the North Western,* Eastern Bengal, East Indian (with which has been amalgamated the Oudh and Rohilkhand Railway from the 1st July 1925), Great Indian Peninsula and Burma Railways] are owned and worked by the State; five (the Bombay, Baroda and Central India, Madras and Southern Mahratta, Assam-Bengal, Bengal-Nagpur and South Indian) are owned by the State but worked on its behalf by companies enjoying a guarantee of interest from the Government; three important lines (the Bengal and North-Western, Rohilkund and Kumaon and Southern Punjab†) and many of less importance are the property of private companies, some being worked by the owning companies and some by the State or by the companies that work State-owned systems; several minor lines are the property of District Boards or enjoy a guarantee of interest granted by such Boards.

The diversity of conditions is in certain respects less important than might at first appear for the following reasons:—

The Government of India exercises under the Indian Railways Act, 1890, in respect of all railways in British India (and also, by virtue of arrangements with Indian States, in respect of certain railways passing through such States), certain general powers. Thus a railway may not be opened until a Government Inspector has certified that it has been constructed so as to comply with requirements laid down by the Government and can be used for the public carriage of passengers without danger to them. The Government of India can also, in the interest of the safety of passengers, require a railway to be closed, or the use of particular rolling-stock to be discontinued, or may prescribe conditions for the use of the railway or the rolling-stock. They can appoint a Railway Commission to investigate complaints on certain matters such as the withholding of reasonable traffic facilities or the grant of undue preference.

In addition, the Government of India (or in some cases Local Governments) exercise under the provisions of contracts detailed control over the management of all Railways in British India greatly exceeding that which is secured by the Indian Railways Act. They also have a certain financial interest in all companies in British India, and a preponderating interest in most of the Railways which are of the first importance.

History of Relations of the Government and Companies.—The main causes which have led to the present diversity of conditions in regard to the agency by which railways are managed, and the relations of the Government with the various classes of companies now in existence, are summarised in the following paragraphs:—

The first proposals for the construction of railways in India were submitted in 1844 to the East India Company in England by Mr. R. M. Stephenson, afterwards Chief Engineer of the East Indian Railway, and others; they included the construction of lines by railway companies to be incorporated for the purpose and the guarantee by the East India Company of a specified return. A contract for the construction by the East Indian Railway Company of an experimental line of 100 miles from Calcutta towards Mirzapore or Rajmehal at an estimated cost of 1,000,000*l*. was made in 1849, and a return of 5 per cent. was guaranteed by the East India Company on the Capital; and a similar contract was made in the same year with the Great Indian Peninsula Railway Company for a line from Bombay to Kalyan at an estimated cost of 500,000*l*. But the policy of entrusting generally the construction of Indian railways to guaranteed companies was not adopted until 1854 on the recommendation of Lord Dalhousie, who, in a minute, dated 20th April 1853, explained his reasons for preferring the agency of companies, under the supervision and control of the Government, to the construction of lines on behalf of the Government by its own officers. He held that the State Engineer officers would make railways as well, and possibly as cheaply, and as expedi-

* Includes the Delhi Umballa Kalka Railway which was purchased by the Secretary of State on 31st March 1926.

† Government has since purchased this line from 1st January 1930.

tiously as companies; but that the withdrawal from other duties of the large number of officers required would be detrimental to the public interest, that the conduct of commercial undertakings did not fall within the proper functions of any Government and least of all within the functions of the Government of India, since the dependence of the population on the Government was, in India, one of the greatest drawbacks to the advance of the country, and that the country would therefore benefit by the introduction of English energy and English capital for railway purposes, with the possibility that such energy and capital would in due course be encouraged to assist in the development of India in other directions.

Old Guaranteed Railways.—The policy supported by Lord Dalhousie was adopted, and between 1854 and 1860 contracts for the construction of Railways in India were made by the East India Company, or (after 1858) by the Secretary of State for India with the East Indian, Great Indian Peninsula, Madras, Bombay, Baroda and Central India, Sind (afterwards, the Sind, Punjab and Delhi), Eastern Bengal, Great Southern of India (afterwards, when amalgamated with the Carnatic Railway Company —see below—the South Indian) and Calcutta and South-Eastern Railway Companies. Under these contracts the railway companies undertook to construct and manage specified lines, while the East India Company (or the Secretary of State for India) agreed to provide land and guaranteed interest on the capital, the rate fixed being in various cases 5, $4\frac{3}{4}$ and $4\frac{1}{2}$ per cent. according to the market rates prevailing when the various contracts were made. Half of any surplus profits earned was to be used towards repaying to the Government any sums by which it had been called upon to supplement the net earnings of any previous period in order to make good the guarantee of interest; and the remainder was to belong to the shareholders. In practically all matters of importance except the choice of staff, the companies were placed by the contracts under the supervision and control of the Government which had power to decide on the standard and details of construction; the rolling-stock to be provided, the number, time and speed of trains; the rates and fares to be charged; the expenditure to be incurred; the standard of maintenance; and the form of accounts. The railways were to be held by the companies on leases terminating at the end of 99 years, and on such termination the fair value of their rolling-stock, plant and machinery was to be paid to them. But provision was also made to enable the Government to purchase the lines after 25 or 50 years on terms calculated to be the equivalent of the companies' interest therein and also to enable the companies to surrender their lines to the Government and to receive in return their capital at par.

Early Attempts to Secure Funds for Railway Construction without a Guarantee.—An attempt to secure the construction of railways in India, on terms more favourable to the Government than those of the contracts with the original guaranteed companies, was first made in 1862, when a subsidy, but not a guarantee, was granted to the Indian Branch Railway Company which proposed to make feeders to the trunk lines in Northern India, and did actually make one such line. Similar assistance was granted later to the Indian Tramway Company, which made a short line in Madras. In 1864, the terms granted to the two companies mentioned were taken as a standard for general adoption with a view to the encouragement of similar companies. The chief provisions were that the Government, besides giving the necessary land free of costs, would grant an annual subsidy for 20 years at a rate not exceeding £100 per mile of line with an addition in respect of large bridges costing more than £10,000. These terms failed to attract capital, and the two unguaranteed companies which had begun work found themselves after a few years unable to proceed without further assistance from the Government. Consequently, in 1867, a contract was entered into with the Indian Branch Railway Company (which soon after changed its name to the "Oudh and Rohilkhand Railway Company") by which the company was guaranteed interest at 5 per cent. per annum on the cost of certain lines to be carried out by it, on conditions similar to those laid down in the contracts of the period 1854—1860. Similarly, the Indian Tramway Company, after having been given in 1868 a guarantee of 3 per cent. per annum, went into liquidation in 1870, and became absorbed in a new company called the Carnatic Railway Company (afterwards amalgamated with the Great Southern of India Railway Company to form the South Indian Railway Company), with which the Secretary of State entered into a contract guaranteeing interest on its capital at 5 per cent. per annum. In 1869, Sir John Lawrence summed up the result of the experiment of the construction of railways by unguaranteed companies as follows:—"The Government of India has for several years been striving to induce capitalists to undertake the construction of railways in India at their own risk, and on their responsibility with a minimum of Government interference. But the attempt has entirely failed, and it has become obvious that no capital can be obtained for such undertakings otherwise than under a guarantee of interest fully equal to that which the Government would have to pay if it borrowed directly on its own account."

The attempt to encourage unguaranteed companies having thus been unsuccessful, it became necessary to decide whether the old practice of relying on guaranteed companies, of the type that had provided capital for, and had constructed, the first railways

in India, should be continued. The Government of India expressed their objections to this course. They doubted whether their power of control over such companies secured the greatest possible economy in construction. They also disliked the arragements under which they guaranteed the interest on the capital of companies, and thus became responsible for loss on working while having only a comparatively remote prospect of profiting by the result of successful working. Two important changes were consequently made in the practice that had been followed since the beginning of railway construction in India:—

1. Arrangements were made with some of the most important of the guaranteed companies that, in lieu of the provision that half of any surplus profits was to be applied in repayment of sums advanced by the Government under the guarantee of interest, half of the surplus profits for each half-year should be the property of the Government. In consideration of this modification, the Government relinquished, in the case of three companies, the Great Indian Peninsula, the Bombay, Baroda and Central India and the Madras, its right to purchase the lines at the end of the first 25 years from the dates of the respective contracts.
2. It was decided by the Secretary of State that the time had arrived when in both raising and expending such additional capital as might be required for new lines in India, the Government should secure to itself the full benefit of its own credit and of the cheaper methods which it was expected that it would be able to use. Accordingly, for several years after 1869, the capital expenditure on railways was chiefly incurred direct by the State and no fresh contracts with guaranteed companies were made except for small extensions. Among the lines constructed or begun by State agency and from State capital between 1869 and 1880 were the Indus Valley, Punjab Northern, Rajputana-Malwa, Northern Bengal, Rangoon and Irrawady Valley and Tirhoot.

Progress in the Construction of Railways.—By the end of 1879, in about 25 years from the introduction of railways in India, 6,128 miles of railway had been constructed by companies which had expended, approximately, £97,872,000 (these figures include the Calcutta and South-Eastern and Nalhati Railways which were constructed by companies but were purchased by the Government in 1868 and 1872, respectively). By the same date 2,175 miles of railway had been constructed by the Government at a cost of £23,695,226.

Introduction of Modified Guarantee Terms.—In 1880, the necessity for great and rapid extension of the railway system was urged by the Famine Commissioners, appointed after the great famine of 1878, who estimated that at least, 5,000 miles were still necessary for the protection of the country from famine. It was held by the Government of the time that a limit was necessary on the capital borrowed annually; and it was clear that the limit fixed was not high enough to allow of such progress in railway construction as was desirable. With reference to this difficulty the Famine Commissioners remarked: "that there would be manifest advantages in giving free scope to the extension of railways by private enterprise if it were possible; and, though the original form of guarantee has been condemned, it may not be impossible to find some substitute which shall be free from its defects, and may secure the investment of capital in these undertakings without involving the Government in financial or other liabilities of an objectionable nature."

Action in the direction suggested by the Commission was taken by the formation of three companies without a guarantee (the Bengal Central in 1881 and the Bengal and North-Western and Rohilkund and Kumaon in 1882), and three new guaranteed companies (Southern Mahratta in 1882, the Indian Midland in 1885, and the Bengal-Nagpur in 1887). The Bengal and North-Western and the Rohilkund and Kumaon Railway Companies are referred to more fully, in a later paragraph. The Bengal Central Railway Company's operation were not successful at the outset, and a revised contract was entered into with the company, with effect from the 1st July 1885, under which the Secretary of State guaranteed interest at 3½ per cent. on the company's capital the balance of net earnings remaining after payment of interest on advances by the Secretary of State and debenture capital (but not the share capital) being divided between the Secretary of State and the company in the proportions of three-quarters to the former and one-quarter to the latter. The new contract gave the Secretary of State the right to take possession of the line on the 30th June 1905, or subsequently at intervals of 10 years, on repaying the company's capital at par. The rate of interest guaranteed to the Southern Mahratta Railway Company was also 3½ per cent.; in this case the balance of net earnings remaining after payment of interest on advances by the Secretary of State (but not on share or debenture capital) was divisible in the same way as in the case of the Bengal Central Railway Company. The guarantee to the Indian Midland and Bengal-Nagpur Railway Companies was 4 per cent.; and the Secretary of State was entitled to three-quarters of the surplus profits in excess of all interest charges. The lines constructed by the three companies last mentioned were declared to be the property

of the Secretary of State, who had the right to determine the contracts at the end of approximately 25 years after their respective dates, or at subsequent intervals of 10 years, on repaying at par the capital provided by the companies.

The Assam Bengal Railway Company was formed on similar lines in 1892, except that any surplus profits were to be divided between the Secretary of State and the company in proportion to the capital provided by each. The rate of guarantee in this case was 3½ per cent. for the first six years and thereafter 3 per cent.

The terms of guarantee given to the companies formed since 1880 have thus been much more favourable to the Government than in the case of those formed before 1869.

Termination of Contracts of the Old Guaranteed Companies.—In dealing with the guaranteed companies formed before 1869 and with those formed in 1881 and subsequently, it has been the practice (except in the cases mentioned above, when the purchase of some of the old guaranteed lines was postponed in order to secure to the Government a share in surplus profits) to use in some way or other at the earliest possible date the right reserved by the Government of terminating the contracts of the various companies. The method of making use of this right has differed in different cases. The Eastern Bengal, Oudh and Rohilkhand and Sind-Punjab and Delhi lines were purchased and transferred to State management, the last named now forming part of the North Western Railway. Similarly, the Bengal Central line was purchased and made part of the Eastern Bengal Railway. The Madras and the Indian Midland lines were acquired but left, after acquisition, under the management of companies working other lines with which it was advantageous to amalgamate them. In the cases of South Indian, Bombay, Baroda and Central India, Southern Mahratta, and Bengal Nagpur, the course adopted has been to arrange for the continuance of management by the original company (or by a new company closely related to the old one), but to secure more favourable financial conditions for the State by one or more of the following methods:—reduction of the amount of capital retained by the companies in the undertakings, reduction of the rate of interest guaranteed by the State on such capital and modification in favour of the Government of the clauses relating to the division of surplus profits. This method was adopted also in regard to the East Indian and the Great Indian Peninsula Railways, but the contracts under which they were being worked having terminated on the 31st December 1924 and the 30th June 1925 respectively, the management of these lines has been taken over by the State from those dates. Similarly the management of the Burma Railways was taken over by the State on the termination of the contract with the Burma Railways Company on the 31st December 1928.

Arrangements between the Government and Companies at present.—The relations between the Government and the guaranteed companies now working railways may be summarised as follows:—

The lines that they work are the property of the State.

The greater part of the capital is the property of the Government, either through having been originally supplied by it or through the acquisition by the Government of the greater part of the companies' interests on the termination of old contracts.

When funds are required for further capital expenditure, the Government has the option either of providing them or of calling on the company to provide them. Both the Government and the company usually receive interest at a fixed rate on their capital and surplus profits are divided between the Government and the company in the various proportions provided for by the contracts. The company's share is in most cases only a small proportion of the total amount.

All the contracts are terminable at the option of the Secretary of State, at specified dates; and on termination the company's capital is repayable at par.

The administrative control exercised by the Government over the companies is as follows:—

The company is bound to keep the line in good repair, in good working condition, and fully supplied with rolling-stock, plant, and machinery; to keep the rolling-stock in good repair and in good working condition; and to maintain a sufficient staff for the purposes of the line;—all to the satisfaction of the Secretary of State.

The Secretary of State may require the company to carry out any alteration or improvement in the line, or in the working that he may think necessary for the safety of the public or for the effectual working of the line.

The Secretary of State may require the company to enter into agreements, on reasonable terms and conditions, with the administrations of adjoining railways for the exercise of running powers, for the supply to one another of surplus rolling-stock, for the interchange of traffic and rolling-stock and the settlement of through rates, and for additions and alterations to, or the

redistribution of, existing accommodation in junctions or other stations in view to their convenient mutual use.

The train service is to be such as the Secretary of State may require. In order to secure a general control over the rates quoted by companies, the Secretary of State has retained power to settle the classification of goods and to authorise maximum and minimum rates within which the companies shall be entitled to charge the public for the conveyance of passengers and goods of each class.

The company has to keep such accounts as the Secretary of State may require, and these are subject to audit by the Secretary of State.

In all other matters relating to the line the company is made subject to the supervision and control of the Secretary of State, who may appoint such persons as he may think proper for the purpose of inspecting the line, auditing the accounts, or otherwise exercising the powers of supervision and control reserved to him. In particular, the Secretary of State has the right to appoint a Government Director to the Board of the company, with a power of veto on all proceedings of the Board. All the moneys received by the company in respect of the undertaking, whether on capital or revenue account, have to be paid over to the Secretary of State.

All expenditure by the company has to be stated and submitted for the sanction of the Secretary of State.

Thus, the Government has the preponderating financial interest in the lines worked by the two classes of guaranteed companies, those formed before 1869 and retained as working agencies with reduced capital after purchase, and those formed on terms more favourable to the State after 1880; it has exceedingly wide control over the methods of working; and it has the right of taking possession of the lines at specified times on repayment at par of the capital of the companies.

Other Lines worked by Companies.—In addition to the lines referred to above, and apart from lines constructed by Branch line companies, District Boards and Indian States, two lines of some importance have been constructed by companies which receive no direct assistance by the Government, namely, the Bengal and North-Western Railway and the Rohilkund and Kumaon Railway. (The Rohilkund and Kumaon Railway Company was guaranteed interest at 4 per cent. during construction and received for 10 years thereafter a subsidy of Rs. 20,000 per annum. This ceased in 1894.) While, however, these companies have no guarantee or other direct payment from the Government, they derive some advantage (partly through direct participation in profits and partly through reduction of expenses) from the fact that the working of certain State lines has been entrusted to them, the Tirhoot Railway to the former company and the Lucknow-Bareilly Railway to the latter. Their lines can be purchased by the State in 1932 on terms which are different in respect of the different sections of the lines, but are, on the whole, much more favourable to the companies than those provided for in the contracts with the guaranteed companies. Failing purchase in 1932, the lines will become the property of the State in 1981 on payment of certain amounts. The general administrative control exercised by the State over these companies and the control over expenditure are similar to that which is exercised, as explained above, over guaranteed companies.

APPENDIX C.

The Organisation for Government control.

The initial policy of the Government of India for the construction and working of railways was the establishment of guaranteed railway companies of English domicile. Control over the operations of these companies was at first secured through the appointment of a Consulting Engineer of Guaranteed Railways. Some years later local Consulting Engineers were appointed for the exercise of control over guaranteed railways and over State-owned railways in the construction of which the State had been financially interested and which had been leased to companies for working. These officers combined the duties of supervision and control on behalf of the Government of India and of an Inspector under the Government of India Railway Act. The Government of India were not directly concerned with the ownership of railways until 1868 when the Calcutta and South Eastern Railway was surrendered to the Indian Government under the terms of the contract between the Secretary of State and the Company.

Owing to the Government of India having in 1869 definitely adopted the policy of direct construction and ownership of railways, a period of rapid development of railway construction ensued and it became necessary to relieve the Public Works Department Secretariat of the Government of India in some measure of the detailed control of railways. Accordingly in 1874 a State Railway Directorate was established and the greater portion of the State Railway establishment and business connected with State Railway Administration was transferred to the control of the Director of State Railways, an officer who functioned on much the same lines as the head of a department under the Government of India. The Consulting Engineer to the Government of India for State Railways was at the same time associated with him but all important matters had still to be referred to the Public Works Department. A special Deputy Secretary in the Railway Branch of the Secretariat of the Public Works Department was also appointed to conduct the correspondence between the Government of India and these officers.

Early in 1877 a further change was made in the organisation responsible for the administration and control of State Railways and in the place of one Director of State Railways three Directors of territorial systems and one Director of State Railways Stores were appointed. These territorial divisions comprised the following systems:—

Central	1,179 miles.
Western, and	927 miles.
North Eastern	830 miles.

This division of the administration on a territorial basis proved unsatisfactory in practice as it resulted in the issue of conflicting orders as far as the management of open lines was concerned although no difficulty was experienced in the supervision of new construction.

As the number of lines under construction had decreased and in order to remedy the defect just mentioned, it was decided in 1880 to abolish the Directors of the Central and Western Systems and to transfer the work allotted to them to the Consulting Engineers of the neighbouring guaranteed railways. The abolition of these two appointments resulted in an increase in the administrative work of the Secretariat and it was found necessary to raise the status of the Deputy Secretary to whom the powers previously exercised by the Directors had been entrusted, to that of Director General of Railways.

In the revised organisation the Consulting Engineer to the Government of India for State Railways was associated with the Director General of Railways and assisted the latter primarily in an advisory capacity in matters of civil engineering while the Director of Stores similarly acted in matters concerning stores and rolling-stock and at the same time was an adviser in matters affecting establishment. The Director of Traffic was appointed at the same time as an adviser on traffic problems and the accounts work of the department was placed under the Accountant General, Public Works Department.

Government control and supervision of the Guaranteed Railways continued to be exercised by the Local Consulting Engineers to Government. There were five such officers at the time with headquarters at Bombay, Madras, Calcutta, Lahore and Lucknow. The Consulting Engineers at Madras and Bombay worked directly under the Government of these Presidencies, while those at Calcutta, Lahore and Lucknow were under the immediate orders of the Government of India. Under this arrangement practically all powers affecting the finances and day to day management of the railways were vested either in the Consulting Engineers or in the Government, both

for the guaranteed railway companies and later on for State Railways which had been leased for working to railway companies.

The following is a list of the administrative appointments that existed in 1881:—

1. Member of the Governor General's Council, Public Works Department.
2. Secretary, Public Works Department.
3. Deputy Secretary, Railway Branch.
4. Under Secretary, Railway Branch.
5. Consulting Engineer of State Railways.
6. Director General of Railways.
7. Director of Construction.
8. Accountant General, Public Works Department.
9. Director of State Railways, Stores.
10. Three Assistants to the Director General of Railways.
11. Consulting Engineers for Guaranteed Railways at Calcutta, Lahore and Lucknow.
12. Deputy Consulting Engineers for Guaranteed lines, Calcutta, Lahore and Lucknow.

Madras and Bombay.

13. Joint Secretary, Railway Branch and Consulting Engineer for Railways.
14. Deputy Secretary, Public Works Department.

Punjab.

15. Secretary, Public Works Department.

By this time also Local Governments and Administrations had been induced to take a practical interest in the management of railways and in a few cases short extensions had been constructed from funds the interest of which Local Governments had accepted responsibility to pay. Such lines were controlled by the Local Governments concerned under the general supervision of the Government of India.

After 1881 further alterations of a more or less detailed character were made in the administrative organisation and by 1890 the following changes had taken place. Instead of a Deputy Secretary and Under Secretary, Railway Branch, there were then only an Under Secretary and an Assistant Secretary, Railways, in the General Branch. The posts of Director of State Railways, Stores, and Director of Construction had disappeared and in their place there was an Under Secretary, who was an *ex-officio* Deputy Director General of Railways. The post of Accountant General, Railways, had also been abolished and the Accountant General, Public Works Department, was once more made responsible for this work.

Further changes were made in 1897. In that year the post of Director General of Railways was abolished and the post of a Secretary to the Government of India in the Public Works Department was created in its place. The other administrative and secretariat appointments at the headquarters of the Government of India at the time were:—

(1) Director of Railway Construction, and Deputy Secretary and *ex-officio* Director of Stores.
(2) Director of Railway Traffic, and Deputy Secretary and *ex-officio* Director of Railway Statistics.
(3) Two Under Secretaries.
(4) Two Assistant Secretaries.
(5) One Mechanical Assistant.

The post of Consulting Engineer for State Railways was also abolished and his duties transferred to the two Directors. The supervision of the accounts work of the Department, however, still remained under the Accountant General, Public Works Department, who was also an *ex-officio* Deputy Secretary to the Government of India.

In October 1901, Sir Thomas Robertson, C.V.O., was appointed by His Majesty's Secretary of State for India in Council as Special Commissioner for Indian Railways to enquire into and report on the administration and working of Indian Railways. In his report, which became available in 1903, Sir Thomas recommended that the administration of the railways in India should be entrusted to a small Board consisting of a President or Chief Commissioner who should have a thorough practical knowledge of railway working, and should be a member of the Viceroy's Council for railway matters, and two other Commissioners who should be men of high railway standing

and should have a similar training to that of the President. He recommended that the Board should, in addition to the necessary office establishment, be provided with—

(1) A Secretary who should have received a suitable training in the practical working of railways, and who should be *ex-officio* a Secretary to the Government of India.

(2) A Chief Inspector of Railways, to advise on all technical, engineering and mechanical questions.

(3) A suitable number of Government Inspectors.

Sir Thomas Robertson's recommendations were carefully considered by the Governor General in Council and the Secretary of State, and early in 1905 it was decided that the Railway Branch of the Public Works Department of the Government of India should be abolished and that the control of the railway systems in India should be transferred to a Railway Board consisting of three persons, a Chairman and two Members. The Chairman of the Board was vested with the general control of all questions committed to the Railway Board with power to act on his own responsibility subject to confirmation by the Board. The Railway Board were authorised to delegate to the Chairman or a member the power of settling questions which might arise on any tour of inspection, such decision to be recorded subsequently as an act of the Railway Board. The Board was made subordinate and directly responsible to the Government of India in the Department of Commerce and Industry.

The Railway Board assumed office in March 1905 and were provided with the following establishment:—

1. Secretary.
2. Examiner of Accounts.
3. Under Secretary, Construction.
4. Under Secretary, Traffic.
5. Registrar.
6. Director of Railway Construction.

Certain changes were, however, made in the following year and the establishment then consisted of:—

1 Secretary.
3 Assistant Secretaries; one each for Establishment, Construction and Traffic.
1 Registrar.
1 Director of Railway Construction.
1 Railway Accounts Officer.

Sir Thomas Robertson had further suggested in his detailed recommendations that extended powers, both administrative and financial, should be delegated to Boards of Directors of Companies, that the appointments of Consulting Engineers should be abolished and that the work which they performed under the Railways Act should be entrusted to a body of Government Inspectors to be appointed for the purpose. These recommendations were given effect to in a modified form in 1908.

Within a short time after the constitution of the Railway Board, it was found that work was being hampered by having the Commerce and Industry Department between the Railway Board and the Governor General in Council and in October 1908 on the recommendations of the Railway Finance Committee presided over by Sir James Mackay (now Lord Inchcape), the following changes were introduced:—

1. The appointment of the Chairman of the Railway Board was changed into that of President of the Railway Board and enhanced powers were vested in the President.
2. The Board with its staff became collectively the Railway Department distinct from and independent of the Department of Commerce and Industry, though remaining under the administrative charge of the Hon'ble Member, Commerce and Industry Department, as the Railway Member.
3. The President of the Board was given direct access to the Viceroy as if he were a Secretary to the Government of India.

At the same time in consequence of the amalgamation of the Public Works Department Accounts and Civil Audit Establishments under the control of the Finance Member of the Government of India the appointment of Accountant General, Public Works Department, was abolished and the appointment of Accountant General, Railways, was revived.

In 1909 the post of Director of Railway Construction was abolished and the appointment of Chief Engineer with the Railway Board for the purpose of advising the Railway Board on technical matters connected with Civil Engineering was created.

In January 1914, it was decided that the importance of financial and commercial considerations in connection with the control of Indian railway policy justified a modification of the rule that the President and Members of the Railway Board should all be men of large experience in the actual working of railways. It was then decided that in future one member who equally with the others might be appointed President should be selected for commercial and financial experience and a member with the necessary qualifications was appointed.

This arrangement was, however, altered in 1920 when it was decided that all the three members of the Board should possess railway experience. To assist the Board, however, in the consideration of financial questions, the post of Financial Adviser to Railway Board was created.

Owing to the expansion of railways in India and the increased work thrown on the Board a second Assistant Secretary, Engineering, was appointed in 1914, and in 1916 the duties of the Construction Branch were divided between one branch dealing with Projects under an Assistant Secretary and a second branch dealing with Way and Works which was sometimes under a separate officer and at other times under the Secretary or Chief Engineer. In 1922 the charge of the Way and Works branch was divided between the Assistant Secretary in charge of Projects and the Assistant Secretary in charge of Stores.

In November 1922, the Board's establishment was strengthened by the appointment of a Chief Mechanical Engineer. This appointment was created to enable the Board to have at headquarters a reliable adviser on matters connected with mechanical engineering.

During 1921 a Committee presided over by Sir William Acworth visited India and one of the questions referred to was the evolution of a satisfactory authority for the administration of the varied functions which the Railway Board had to perform as:—

(*a*) the directly controlling authority of the three State-worked systems aggregating 9,028 miles,

(*b*) representative of the predominant owning partner in systems aggregating 22,949 miles,

(*c*) the guarantor of many of the smaller companies,

(*d*) the statutory authority over all railways in India.

The Acworth Committee recommended in their report:—

(1) that a new Department of Communications responsible for railways, ports and inland navigation, road transport and posts and telegraphs under a Member of Council in charge of Communications should be created,

(2) that under the Member of Council for Communications there should be a technical staff consisting on the railway side of a Chief Commissioner and four Commissioners and that of the four one should be in charge of finance and the organisation and staff of the office and the other three Commissioners should be in charge of three respective divisions, Western, Eastern and Southern,

(3) that the technical staff attached to the Commission should be strengthened specially on the traffic side.

The Government of India, though they did not accept the first recommendation of the Acworth Committee, agreed to the re-organisation of the Railway Board being undertaken on the principles underlying the report of the Acworth Committee. The appointment of a Chief Commissioner was accordingly sanctioned in November 1922, and in accordance with the recommendations of the Acworth Committee he is solely responsible, under the Govenent of India, for arriving at decisions on technical questions and advising the Government of India on matters of Railway policy; he is not liable to be over-ruled, as the President was, by his colleagues in the Railway Board.

The first duty of the Chief Commissioner was to work out detailed proposals for the re-organisation of the Railway Board and as a first step he made recommendations to the Government of India for the immediate appointment of a Financial Commissioner. This recommendation was strongly endorsed by the Indian Retrenchment Committee and the appointment of the Financial Commissioner was made in April 1923 with the sanction of the Secretary of State. The further proposals of the Chief Commissioner for the re-organisation of the Railway Board were accepted by the Government of India and the Secretary of State and were introduced from the 1st April 1924. It was decided, however, for reasons connected with the present statutory position of the Railway Board, and to avoid confusion with the provisions for a Railway Commission under Chapter V of the Railways Act, to retain the name "Railway Board" for the headquarters organisation of the Railway Department instead of "Railway Commission" as recommended by the Acworth Committee.

The Railway Board as then reconstituted consisted of the Chief Commissioner as President, the Financial Commissioner and two Members, the Chief Commissioner being Secretary to the Government of India in the Railway Department. The proposal of the Acworth Committee that the Indian Railways should be sub-divided into three territorial divisions with a Commissioner in charge of each was not accepted, and the work of the Members of the Board was divided on the basis of subjects and not on a territorial basis. One Member dealt with technical subjects and the other with general administration, personnel and traffic subjects, the Financial Commissioner representing the Finance Department on the Board and dealing with all financial questions.

The reorganisation carried out in 1924 had for one of its principal objects the relief of the Chief Commissioner and the Members from all but important work so as to enable them to devote their attention to larger questions of railway policy and to enable them to keep in touch with Local Governments, railway administrations and public bodies by touring to a greater extent than they had been able to do in the past. This object was effected by placing a responsible Director at the head of each of the main branches of the Board's work, namely Civil Engineering, Mechanical Engineering, Traffic and Establishment. The former Chief Engineer and the Chief Mechanical Engineer who had been employed mainly in consultative work, became Directors and together with the Directors of Traffic and Establishment have been made responsible for the direct disposal of the work of their branches under the general orders of the Railway Board.

The posts of Joint Secretary and 4 Assistant Secretaries were replaced by 6 Deputy Directors working under the Directors and in charge of branches dealing with Establishment, Works, Projects, Stores, Statistics and Traffic. One Assistant Director was also added to supervise the Technical Branch and the Drawing Office. The disposal of the general work of the Railway Board was provided for by the continuance of the post of Secretary in whose name all letters and orders of the Board are issued. The position of the Board as a Department of Government of India has been maintained and it works under the Member for Commerce and Railways. As already stated the Chief Commissioner is the Secretary to the Government of India in the Railway Department and orders issued by the Board over the signature of the Secretary are orders of the Government of India.

Experience of the working of this organisation during 1924-25 and the decision agreed to by the Legislative Assembly in September 1924 to separate railway finances from the general finances of the country made it necessary to appoint a Deputy Director and an Assistant Director of Finance. An Assistant Director of Statistics was also added during that year. Later a Director of Finance was added to the establishment occupying, as regards disposal of work, the same position as the Directors referred to above.

Further experience of the reduction of work resulting from the large delegation of powers and responsibility to the Agents of State-managed Railways and the Board of Directors of Company-managed railways enabled a re-arrangement of work to be made during 1925-26 accompanied by a reduction in the staff. Under this re-arrangement the posts of 3 Deputy Directors, an Assistant Director and the Assistant Secretary were held in abeyance. The personnel work was transferred from the Director of Establishment to the Secretary and a temporary post of Deputy Secretary was created. Further a separate technical office was established to take charge of the technical work of the engineering branches. The Technical Officer also acted as *ex-officio* Secretary to the permanent Standardisation Committees which were appointed to deal progressively with all questions of standards of equipment.

This arrangement was found, however, to be inadequate. In addition to the general increase in work in the Railway Board's Office consequent on the taking over of the East Indian, Great Indian Peninsula and Burma Railways under State control labour problems had assumed such importance and were so rapidly increasing in number and complexity that it was not possible to deal with them effectively without the appointment of additional staff. Accordingly it was decided to create an additional post of Member of the Railway Board to deal with staff and labour questions; leaving the Member in charge of Traffic, who had hitherto been dealing with establishment matters, to devote his whole time to questions relating to the Transportation and Commercial aspects of Railway work.

It was also decided to revive the post of Deputy Director, Establishment, so as to free the Director of Establishment from this work, and thus enable him to give his time to the study of problems of railway labour—the main object of the creation of his appointment. Of the two posts of Deputy Directors of Traffic and Statistics the former was held in abeyance from 1925 and has since been amalgamated with the latter.

The present superior staff under the Railway Board therefore consist of the Chief Commissioner, the Financial Commissioner, 3 Members, 5 Directors, 5 Deputy Directors, 2 Assistant Directors, Secretary and a Deputy Secretary.

For the conduct of the work connected with the production of standard designs and specifications for all classes of materials, plant and rolling stock in use on Indian Railways, a Central Standards Office for Railways was formed in January 1930 for a period of 5 years as an experimental measure. On the formation of the above office the post of Technical Officer with the Railway Board was abolished.

APPENDIX D.

Resolution regarding the separation of railway from General Finances, adopted by the Legislative Assembly on the 20th September 1924.

"This Assembly recommends to the Governor General in Council that in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State on Railways.

(1) The railway finances shall be separated from the general finances of the country and the general revenues shall receive a definite annual contribution from railways which shall be the first charge on the net receipts of railways.

(2) The contribution shall be based on the capital at charge and working results of commercial lines, and shall be a sum equal to one per cent. on the capital at charge of commercial lines (excluding capital contributed by companies and Indian States) at the end of the penultimate financial year *plus* one-fifth of any surplus profits remaining after payment of this fixed return, subject to the condition that, if in any year railway revenues are insufficient to provide the percentage of one per cent. on the capital at charge surplus profits in the next or subsequent years will not be deemed to have accrued for purposes of division until such deficiency has been made good.

The interest on the capital at charge of, and the loss in working, strategic lines shall be borne by general revenues and shall consequently be deducted from the contribution so calculated in order to arrive at the net amount payable from railway to general revenues each year.

(3) Any surplus remaining after this payment to general revenues shall be transferred to a railway reserve; provided that if the amount available for transfer to the railway reserve exceeds in any year three crores of rupees only two-thirds of the excess over three crores shall be transferred to the railway reserve and the remaining one-third shall accrue to general revenues.

(4) The railway reserve shall be used to secure the payment of the annual contribution to general revenues; to provide, if necessary, for arrears of depreciation and for writing down and writing off capital; and to strengthen the financial position of railways in order that the services rendered to the public may be improved and rates may be reduced.

(5) The railway administration shall be entitled, subject to such conditions as may be prescribed by the Government of India, to borrow temporarily from the capital or from the reserves for the purpose of meeting expenditure for which there is no provision or insufficient provision in the revenue budget subject to the obligation to make repayment of such borrowings out of the revenue budgets of subsequent years.

(6) A Standing Finance Committee for Railways shall be constituted consisting of one nominated official member of the Legislative Assembly who should be chairman and eleven members elected by the Legislative Assembly from their body. The members of the Standing Finance Committee for Railways shall be *ex-officio* members of the Central Advisory Council, which shall consist, in addition, of not more than one further nominated official member, six non-official members selected from a panel of eight selected by the Council of State from their body and six non-official members selected from a panel of eight elected by the Legislative Assembly from their body.

The Railway Department shall place the estimate of railway expenditure before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for grants for railways and shall, as far as possible, instead of the expenditure programme revenue show the expenditure under a depreciation fund created as per the new rules for charge to capital and revenue.

(7) The railway budget shall be presented to the Legislative Assembly if possible in advance of the general budget and separate days shall be allotted for its discussion, and the Member in charge of railways shall then make a general statement on railway accounts and working. The expenditure proposed in the railway budget, including expenditure from the depreciation fund and

the railway reserve, shall be placed before the Legislative Assembly in the form of demands for grants. The form the budget shall take after separation, the detail it shall give and the number of demands for grants into which the total vote shall be divided shall be considered by the Railway Board in consultation with the proposed Standing Finance Committee for Railways with a view to the introduction of improvements in time for the next budget, if possible.

(8) These arrangements shall be subject to periodic revision but shall be provisionally tried for at least three years.

(9) In view of the fact that the Assembly adheres to the resolution passed in February 1923, in favour of State management of Indian Railways, these arrangements shall hold good only so long as the East Indian Railway and the Great Indian Peninsula Railway and existing State-managed railways remain under State management. But if in spite of the Assembly's resolution above referred to Government should enter on any negotiations for the transfer of any of the above railways to Company management such negotiations shall not be concluded until facilities have been given for a discussion of the whole matter in the Assembly. If any contract for the transfer of any of the above railway to Company management is concluded against the advice of the Assembly, the Assembly will be at liberty to terminate the arrangements in this Resolution.

Apart from the above convention this Assembly further recommends—

(*i*) that the railway services should be rapidly Indianised, and further that Indians should be appointed as Members of the Railway Board as early as possible, and

(*ii*) that the purchases of stores for the State Railways should be undertaken through the organisation of the Stores Purchase Department of the Government of India."

APPENDIX E.

Government of India, Railway Department, Resolution No. 2131-F., dated the 19th February 1925, on the subject of the financing of branch lines of railways.

The Governor General in Council, with the sanction of His Majesty's Secretary of State for India, is pleased to issue the following orders on the subject of Financing of Branch Lines, in suppression of all previous orders on the subject.

1. Branch and Feeder Lines are constructed under an agreement by which the State guarantees a minimum return on the capital, or alternatively, undertakes that the line shall receive, out of the earnings of the main line from traffic contributed by the branch, such a sum, known as a rebate, as will make up the total earnings of the branch to a given sum, while the branch in each case shares with the main line any profits exceeding the guaranteed minimum.

2. This method of encouraging the construction of lines originated 30 years ago simply because the Government of India was unable to furnish the necessary capital.

3. The Acworth Committee pointed out that this method, while enabling lines to be built which would otherwise not have been built, has no other merit. The financial terms usual before the war are now quite inadequate and if the system is to continue they will have to be revised. All the witnesses before the committee who asked for a revision of the terms admitted that, if the main line were in a position to build a given branch itself, they would prefer that it should be done by the main line rather than that it should be done as a separate undertaking.

4. Amongst the disadvantages pointed out by the Committee are the following:—

(*i*) The Branch Line Company is usually a fifth wheel to the coach. It implies in some cases a separate construction staff; it always implies a separate Board of Directors, and separate accounts.

(*ii*) Where the branch is worked by the main line, if its Directors feel that the management is unsatisfactory, they not only make representations to the main line administration, but in the last resort can appeal to the Railway Board which does not make for harmony.

(*iii*) Capital raised by a small private undertaking, even with a Government guarantee, will cost more than money raised by the State.

(*iv*) Inconceivable confusion results from the multiplication of independent Railway Companies—each company, small or great, desires to reserve for itself a separate sphere of influence; and jealously demands that, if any new-comer intrudes into that sphere, he shall pay toll to the original concessionaire. This only complicates a situation which ought to be considered solely from the point of view of the public interest. New proposals for the extension or connection of lines by small independent companies are either refused owing to protests by the old company or only permitted on a basis of elaborate accounting between the new company and the old for the profits which hypothetically would have belonged to the old line had the new line not been opened.

5. The only arguments urged in favour of the Branch Line Companies were:—

(*i*) That money had been raised which the Government of India was unable to furnish.

(*ii*) That a claim was made that the Branch Line Company obtained from local sources money that would never be subscribed to a Government loan.

(*iii*) That there may be cases of a Branch Line of smaller gauge *worked independently,* which the Branch Line Company can operate more economically than a main line.

6. The Acworth Committee, therefore, so far from approving of this system considered that the aim of the Government should be to reduce by amalgamation the number of existing companies and that it should only be in cases where the State cannot or will not provide adequate funds that private enterprise in the direction should be encouraged.

7. The disadvantages pointed out by the Acworth Committee required to be even further amplified. The existing Branch Line Companies have ceased for some time to raise additional capital for capital requirements. They have either obtained overdrafts from various Banks for this purpose at heavy rates of interest or issued debentures at special rates of interest (usually about 7 per cent.) or in several cases asked

for money to be advanced to them by the Railway Board. So far, therefore, from reducing the amount that the Government of India have to raise in the open market, they are at present increasing that amount.

8. Another serious disadvantage which is not mentioned by the Acworth Committee is that the main line usually works the Feeder or Branch Line for a remuneration which, in most cases, is limited to a maximum of a fixed percentage of the gross earnings of the Branch Line (usually 40 per cent. or 50 per cent.)—terms of remuneration which at present are grossly inadequate. The result of this arrangement is that many of the main lines whose working expenses are from 60 to 80 per cent. of the gross earnings are saddled with heavy expenditure which ought to have been debited to Branch Line Companies. Where the Branch Line Companies are "successful," that is, where the shares stand at a high figure, their profits are inflated owing to their working expenses being thus artificially reduced. Again, where in the case of less "prosperous" Branch Line Companies, the Government has to make a direct subsidy in order to make up the guaranteed interest on the capital, the amount paid by way of subsidy does not reveal the true loss of the Government in connection with the Branch Line Company. To this subsidy should be added also the additional loss incurred from the main line working the Branch Line at less than the actual cost. Even this, however, does not give a complete statement of the loss sustained by Government in connection with these Companies. These Companies have been supplied with land free of charge and the cost of such land is not taken into account either in the Capital or the Revenue Accounts of the Companies concerned.

9. The only real argument in favour of these Companies is that they must be utilised in cases where the Government itself is unable or declines to raise the necessary amount of capital for new constructions. It is doubtful whether such a position is likely to recur in the future. It is admitted that to use the agency of these Companies is a far more expensive method of raising money for the construction of railways than direct Government loans can ever be. The amount of assistance given by Branch Line Companies in the past has been trivial; the total amount of capital raised through the agency of Branch Line Companies has only been about Rs. 10¾ crores—an amount which in itself is less than the lapse that occurred last year in the provision for capital expenditure in the Railway Budget.

10. The difficulties and complications now experienced in connection with these Branch Line Companies are out of all proportion to the insignificant financial facilities offered by the Companies. The Government of India have therefore decided that the Branch line policy should be abandoned and that an endeavour should be made to reduce the number of the existing Branch Line Companies. If on any occasion the Government of India should be unable to find funds for construction (which is not the case at present), and should it be considered advisable to tap fresh sources for subscription to railway loans by offering terms different from those given to the ordinary Government loans, that is, by offering not only a fixed rate of interest, but a share in the profits of a particular Branch Line, there appears to be no particular advantage of using a financial half-way house specially to float a loan on such terms; there appears to be no reason why the Government should not float the loan direct. But it will probably be found sufficient to raise short term debentures at a high rate of interest—to be liquidated when the loan market is favourable—a procedure adopted now by the Branch Line Companies, but at a higher rate of interest than would be necessary for the Government.

11. There remains the case of the District Board Railways for which some of the capital or the security for the captial is secured by a special cess levied by the District Board throughout the district.

The Acworth Committee pointed out that where a District Board was the promoter of a new Branch Line, considerations other than purely commercial came into play with the result of further complications and confusion. In a footnote to the report they referred to the views expressed by the Madras Government who had drawn attention to a case in which, although no short-circuiting was involved, there had been a delay of over 10 years in arriving at a decision in regard to the terms for working a District Board Railway by the South Indian Railway Company. The amount of capital raised by District Boards for such lines has been only Rs. 137 lakhs while the amount raised by Company lines subsidised by District Boards amounts to Rs. 2¼ crores. These amounts are insignificant as compared with the total capital raised by the Government and it is clear that the relief afforded to the Government of India in raising the loans is quite disproportionate to the great complications which have resulted in the working of the railway administration. Loans raised direct by the District Boards do not relieve the market of the Government of India; the money is ultimately borrowed from the Government of India.

12. The legal position regarding the powers of District and Local Boards in the matter of railway construction and management depends in part on the Indian Railways Act, 1890, which, in the absence of express exclusion of its application, extends to all District Board railways and, in part on the nature of the provision made in the

matter in the District or Local Boards Act of the province concerned. It is only in the Madras Presidency that the question has assumed prominence and it will suffice to indicate briefly the nature of the provisions contained in the Madras Local Boards Act, 1920. Action under section 113 of that Act can only be taken "with the previous sanction of the Government of India." Having obtained such sanction, a District Board may either itself construct and maintain a railway within, or partly within, the local area under the control of the Board, or may subscribe to any debenture loan raised by the Government of India or by any other local authority or by any company for the construction or maintenance of any railway which the Board considers likely to be of benefit to the district, or may guarantee the payment from the district fund of such sums as it shall think fit as interest on capital expended on any such railway (that is, whether the railway is constructed by the Government of India or by any other local authority or by a Company).

Section 236 of the same Act provides that the accumulations of a local railway cess may be utilised for all or any of the purposes specified in section 113, including the guaranteeing of payment of interest on capital spent on a railway.

A District Board in Madras, therefore, can guarantee the payment from the district fund of the money sufficient to make up minimum interest on capital expended on a railway within its area whether such railway is constructed by the Government of India or by a Company, the only disadvantage attaching to this particular form of guarantee being that the Act does not make the payment of the guaranteed interest a first charge on the District Board Fund.

13. The Government of India could not reasonably use their powers under the Indian Railways Act, 1890, or under, *e.g.*, section 113 of the Madras Local Boards Act, 1920, to prevent a District Board or a local body from constructing a light railway or a tramway which had no physical connection with any existing main line and which that local body proposed to work itself or through a local company. But as things stand at present there is no reason for continuing the practice under which District Boards are allowed to make money out of Branch Lines connected with a main line when they themselves cannot make any arrangements for the working of the lines and require to have them run by the main lines.

14. These District Board railways must not be confused with the light and feeder railways which constitute a provincial subject under the Devolution Rules. The provincial subject in question comprises "light and feeder railways and extra-municipal tramways in so far as provision for their construction and management is made by provincial legislation." That is to say, it comprises only individual light or feeder railways or extra-municipal tramways for the construction and management of which specific provision has been made by an Act of the local legislature of the province concerned. Hitherto, no such legislation has been enacted with the result that the entry in question in the provincial schedule, as also the qualifying words to entry 5 (*a*)* in the central schedule, have no operation, and all existing railways of every description are included in the central subject defined in the last-named entry. It should also be observed that the provincial subject in question is "subject to legislation by the Indian Legislature in the case of any such railway or tramway which is in physical connection with a main line or is built on the same gauge as an adjacent line," the effect being that a provincial bill designed to provide for the construction of a light or feeder railway or extra-municipal tramway in physical connection with a main line or built on the same gauge as an adjacent main line would require the previous sanction of the Governor General under clause (*f*) of sub-section (3) of section 80 A of the Government of India Act; and it may be presumed that few occasions are likely to arise in which provision will be made by local legislation for the construction of a light or feeder railway not answering one or other of these descriptions.

15. The proposal set forth in this Resolution is not designed to evade the legitimate operation of the legal position described, in the case of District Board railways, in paragraph 12 and in the case of provincial light and feeder railways, in paragraph 14; but it follows from the proposal that Local Governments and District or Local Boards should not, in the absence of special circumstances, be encouraged to build branch or feeder lines. In other words, the normal procedure will be the construction by the Government of India, or, at its cost, by a Company, of a branch line which a District Board or Local Government desires to have constructed and is prepared to guarantee. But, should the railway programme not permit the construction of such a line within a reasonable time, the possibility of permitting a District Board or Local Government to construct it from its own funds would require consideration.

Unremunerative Lines.

16. The above proposals relate to the procedure adopted in the past and the procedure which it is proposed to adopt in the future for the financing of the con-

* "Railways and extra-municipal tramways, in so far as they are not classified as provincial subjects under entry 6 (*d*) of Part II of this Schedule."

struction of branch or feeder lines expected to prove remunerative from the point of view of railway earnings only. But there are cases where the Local Governments or local authorities may desire that a line should be constructed which will not be remunerative on railway earnings and the construction of which is desired by them for purely local reasons on account of the administrative advantages it is likely to confer or for the development of a particular area. It is proposed that in future the Railway Board in such circumstances should have power to arrange for the construction of the line from railway funds if the Local Government or the local authority guarantees the Railway Board against loss. The guarantee would be to the effect that the local authority would make up the difference between the net earnings and the interest and other charges payable. As it is not desirable that the Central Government should make any profit out of such contributions by local authorities, it is also proposed that where contributions have been made by a local authority for this purpose the repayment of such contributions should be a first charge on any net profits subsequently realised from the line, should the line prove remunerative.

17. The Central Government must, however, retain the power to decide whether a line is to be built or not; the proposals in the preceding paragraph must not be taken to imply that a Local Government by giving a guarantee can require the Railway Board to construct a line. Proposals of a Local Government might run counter to the general railway policy or might take the form of short-circuiting railway traffic and so lead to a reduction of receipts from existing lines.

18. These proposals have been circulated to Local Governments and have been generally welcomed by them as affording a suitable method of reconciling central and local interests and of providing for local bodies and Local Governments a method of securing the construction of railways which may be required for purely local reasons, and which, while not likely to prove remunerative on purely railway earnings, are likely to provide such indirect benefits to Local Governments and local bodies as will more than repay the amounts paid under the guarantee. Several such arrangements have already been made with Local Governments.

APPENDIX F.

Statement of Gazetted Officers and Officers of corresponding rank employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways) on the 1st April 1930 as compared with 1st April 1929.

Item	A. B.		B. N.		B. & N. W.		B., B. & C. I.		BURMA.		E. B.		E. I.		G. I. P.		M. & S. M		N. W.		R. & K.		S. I.		Ry. Board and Miscellaneous officers.		TOTAL.	
	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1. *Agency Department*—																												
1·01. Europeans	3	2	6	5	3	3	8	8	3	3	5*	4	5	6	6	5	4	6	7*	7	1	..	3	3	4	4	58*	56
1·02. Statutory Indians—																												
(a) Hindus	..	..	2	2	..	..	..	..	..	..	..	1	1	1	1	1	2	2	..	2	..	..	3	3	..	..	9	12
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	..	..	..	..	2	1
(c) Anglo-Indians	..	..	1	1	..	..	1	1	1	1	..	..	2	2	..	..	..	..	..	1	..	..	..	..	..	..	5	6
(d) Other classes	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	1	1	..	..	..	..	..	..	3	3
(e) Total	..	..	3	3	..	..	1	1	2	2	..	1	4	3	2	2	2	2	2	5	..	..	3	3	..	..	19	22
1·03. GRAND TOTAL	3	2	9	8	3	3	9	9	5	5	5*	5	9	9	8	7	6	8	9*	12	1	..	6	6	4	4	77*	78
2. *Engineering Department*—																												
2·01. Europeans	18	17	66	65	21	22	39	39	40	35	32	28	59	53	75	73	44	40	72*	64	4	3	40	38	19	20	529*	497
2·02. Statutory Indians—																												
(a) Hindus	4	8	17	17	2	2	14	14	6	3	14	14	33	36	10	7	14	14	49*	50	..	..	19	20	1	1	183*	186
(b) Muslims	3	2	2	2	..	1	1	..	1	1	1	1	7	6	2	3	..	..	9	6	..	..	2	2	..	..	28	24
(c) Anglo-Indians	3	3	12	12	1	1	6	4	8	6	3	3	14	9	1	1	2	1	13	5	..	..	2	1	1	..	66	46
(d) Other classes	1	1	2	2	..	..	3	3	..	..	3	2	5	5	6	6	..	..	7	8	..	..	3	4	..	..	30	31
(e) Total	11	14	33	33	3	4	24	21	15	10	21	20	59	56	19	17	16	15	78*	69	..	..	26	27	2	1	307*	287
2·03. GRAND TOTAL	29	31	99	98	24	26	63	60	55	45	53	48	118	109	94	90	60	55	150*	133	4	3	66	65	21	21	836*	784
3. *Transportation*—																												
3·01. Europeans	7*	7	30	30	13	14	29	28	28	28	18*	19	39	36	48	50	20	21	36*	36	2	2	10	12	17	16	297*	299
3·02. Statutory Indians—																												
(a) Hindus	2	3	10	10	2	2	6	7	..	..	8	8	6	5	4	6	6	9	9*	11	..	..	6	5	4*	3	63*	69
(b) Muslims	1	1	3	4	..	..	2	2	..	..	5	5	6	7	1	1	..	..	6	5	1	1	..	..	2	4	27*	30
(c) Anglo-Indians	4*	4	2	3	..	..	3	3	1	1	5	4	5	3	4	4	3	3	4	3	..	..	1	2	1	3	33*	33
(d) Other classes	..	..	..	..	..	..	4	5	7	6	..	..	1	1	..	..	..	..	2	1	..	..	1	..	1	2	16	15
(e) Total	7*	8	15	17	2	2	15	17	8	7	18	17	18	16	9	11	9	12	21*	20	1	1	8	7	8*	12	139*	147
3·03 GRAND TOTAL	14*	15	45	47	15	16	44	45	36	35	36*	36	57	52	57	61	29	33	57	56	3	3	18	19	25*	28	436*	446

* Revised figures.

APPENDIX F—contd.

Statement of Gazetted Officers and Officers of corresponding rank employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways) on the 1st April 1930 as compared with 1st April 1929—concld.

Item.	A. B.		B. N.		B. & N.-W.		B., B. & C. I.		BURMA.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		Ry. Board and Miscellaneous officers.		TOTAL.	
	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
4. *Commercial*—																												
4·01. Europeans	1	1	Included under Transportation.		3	2	Included under Transportation.						7	6	16	15	Included under Transportation.		12	10	Included under Transportation.		7	5	..	..	46*	39
4·02. Statutory Indians—																												
(a) Hindus	..	..	..	..	..	..	..	..	..	..	..	..	1	1	7	6	..	..	2	2	..	..	5	7	..	..	15	16
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	5	..	..	1	..	..	..	5*	5
(c) Anglo-Indians		..	..	..	..	..	..	..	..	..	..	..	8	5	2	2	..	..	..	..	..	..	..	1	..	..	10	8
(d) Other classes		..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	2
(e) Total	..	..	..	..	..	..	..	..	..	..	..	..	9	6	9	9	..	..	6	8	..	..	6	8	..	..	30*	31
4·03. GRAND TOTAL	1	1	..	..	3	2	..	..	..	..	..	..	16	12	25	24	..	..	18	18	..	..	13	13	..	..	76*	70
5. *Mechanical Engineering*—																												
5·01. Europeans	9	9	24	26	13	12	33	32	21	23	22	22	46	43	24	22	23	23	39*	40	3	4	18	18	5	5	280*	279
5·02. Statutory Indians—																												
(a) Hindus	..	..	1	1	..	..	1	1	..	..	3	3	6	7	4	5	..	1	5	4	..	..	2	4	..	..	22	26
(b) Muslims	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	3	2
(c) Anglo-Indians	1	1	..	..	..	..	1	..	1	1	..	..	3	3	..	..	..	..	4	4	..	..	..	..	..	..	10	9
(d) Other classes	..	..	..	..	..	..	..	..	..	..	2	2	1	1	..	1	..	1	..	..	..	..	..	..	..	..	3	5
(e) Total	2	2	1	1	..	..	2	1	1	1	5	5	10	11	4	6	..	2	11	9	..	..	2	4	..	..	38	42
5·03. GRAND TOTAL	11	11	25	27	13	12	35	33	22	24	27	27	56	54	28	28	23	25	50*	49	3	4	20	22	5*	5	318*	321
6. *Stores Department*—																												
6·01. Europeans	..	..	6	6	1	1	6	7	1	1	2	2	5	7	5	4	6	6	8	9	..	..	3	3	..	..	43	46
6·02. Statutory Indians—																												
(a) Hindus	..	..	1	1	..	..	1	1	2	2	1	1	1	1	..	..	..	1	3	2	..	..	1	..	..	..	10	9
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	2	2
(c) Anglo-Indians	1	1	1	2	1	1	..	..	1	1	3	3	3	5	1	1	..	..	..	..	..	..	2	2	1	..	14	16
(d) Other classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1
(e) Total	1	1	2	3	1	1	1	1	3	3	4	4	4	6	3	3	1	2	3	2	..	..	3	2	1	..	27	28
6·03. GRAND TOTAL	1	1	8	9	2	2	7	8	4	4	6	6	9	13	8	7	7	8	11	11	..	..	6	5	1	..	70	74
7. *Other Departments*—																												
7·01. Europeans	11	10	22	21	9	9	24	23	11	11	2	1	50	48	17	17	20	19	7	4	1	1	13	12	30*	23	217	199
7·02. Statutory Indians—																												
(a) Hindus	5	5	6*	7	2	2	2	3	3*	3	10	12	17	23	4	6	3	4	22	21	2	2	7	7	14*	15	97*	110
(b) Muslims	..	..	..	..	..	..	..	..	..	..	1	1	2	1	..	..	..	..	1	2	..	..	..	..	2	3	6	7
(c) Anglo-Indians	1	2	2	2	..	..	2	2	1*	1	3	1	13	16	2	3	3	2	..	2	..	..	..	..	4*	7	31*	38
(d) Other classes	..	..	..	..	..	..	6	6	..	..	..	..	1	1	2	2	2	3	4	6	..	..	..	..	1	2	16	20
(e) Total	6	7	8*	9	2	2	10	11	4*	4	14	14	33	41	8	11	8	9	27	31	2	2	7	7	21*	27	150*	175
7·03. GRAND TOTAL	17	17	30*	30	11	11	34	34	15*	15	16	15	83	89	25	28	28	28	34	35	3	3	20	19	51*	50	367*	374
8. *Total*—																												
8·01. Europeans	49*	46	154	153	63	63	139	137	104	101	81*	76	211	199	191	186	117	115	181	170	11	10	94	91	75	68	1,470*	1,415
8·02. Statutory Indians—																												
(a) Hindus	11	16	37*	38	6	6	24	26	11*	8	36	39	65	74	30	31	25	31	90*	92	2	2	43	46	19*	19	399*	428
(b) Muslims	5	4	5	6	..	1	3	2	1	1	7	7	16	14	5	6	..	..	23	20	1	1	3	2	4	7	73	71
(c) Anglo-Indians	10*	11	18	20	2	2	13	10	13*	11	14	11	48	43	10	11	8	6	21	15	..	..	5	6	7*	10	169	156
(d) Other classes	1	1	2	2	..	..	13	14	8	7	5	4	8	8	9	11	3	5	14	17	..	..	4	4	2	4	69	77
(e) Total	27*	32	62*	66	8	9	53	52	33*	27	62	61	137	139	54	59	36	42	148*	144	3	3	55	58	32*	40	710*	732
8·03 GRAND TOTAL	76	78	216*	219	71	72	192	189	137*	128	143*	137	348	338	245	245	153	157	329*	314	14	13	149	149	107*	108	2,180*	2,147
9. *Increase + Decrease*—																												
9·01. Europeans	..	—3	..	—1	..	..	..	—2	..	—3	..	—5	..	—12	..	—5	..	—2	..	—11	..	—1	..	—3	..	—7	..	—55
9·02. Statutory Indians—																												
(a) Hindus	..	+5	..	+1	..	..	..	+2	..	—3	..	+3	..	+9	..	+1	..	+6	..	+2	..	..	..	+3	..	...	..	+29
(b) Muslims	..	—1	..	+1	..	+1	..	—1	..	..	..	..	..	—2	..	+1	..	..	..	—3	..	..	..	—1	..	+3	..	—2
(c) Anglo-Indians	..	+1	..	+2	..	..	..	—3	..	—2	..	—3	..	—5	..	+1	..	—2	..	—6	..	..	..	+1	..	+8	..	—13
(d) Other classes	..	..	..	..	..	..	..	+1	..	—1	..	—1	..	..	..	+2	..	+2	..	+3	..	..	..	..	..	+2	..	+8
(e) Total	..	+5	..	+4	..	+1	..	—1	..	—6	..	—1	..	+2	..	+5	..	+6	..	—4	..	..	..	+3	..	+8	..	+22
9·03. GRAND TOTAL	..	+2	..	+3	..	+1	..	—3	..	—9	..	—6	..	—10	..	..	..	+4	..	—15	..	—1	..	..	..	+1	..	—33
10. *Percentage of total*—																												
10·01. Europeans	64·5	59·0	71·3	69·9	88·7	87·5	72·4	72·5	75·9	78·9	56·7	55·5	60·6	58·9	78·0	75·9	76·5	73·3	55·0	54·1	78·6	76·9	63·1	61·1	70·1	63·0	67·3	65·9
10·02. Statutory Indians—																												
(a) Hindus	14·5	20·5	17·1	17·3	8·5	8·3	12·5	13·8	8·0	6·2	25·2	28·5	18·7	21·9	12·2	12·7	16·3	19·8	27·4	29·3	14·3	15·4	28·9	30·9	17·8	17·6	18·3	19·9
(b) Muslims	6·6	5·1	2·3	2·8	..	1·4	1·5	1·0	0·7	0·8	4·9	5·1	4·6	4·1	2·0	2·4	..	..	7·0	6·4	7·1	7·7	2·0	1·3	3·7	6·5	3·4	3·3
(c) Anglo-Indians	13·1	14·1	8·4	9·1	2·8	2·8	6·8	5·3	9·5	8·6	9·7	8·0	13·8	12·7	4·1	4·5	5·2	3·8	6·4	4·8	..	..	3·3	4·0	6·5	9·2	7·8	7·3
(d) Other classes	1·3	1·8	0·9	0·9	..	..	6·8	7·4	5·9	5·5	3·5	2·9	2·3	2·4	3·7	4·5	2·0	3·1	4·2	5·4	..	..	2·7	2·7	1·9	3·7	3·2	3·6

* Revised figures.

APPENDIX F—contd.

Statement of Subordinates, drawing Rs. 250 per mensem and over or on scales of pay rising to Rs. 250 per mensem and over, employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways) on 1st April 1930 as compared with 1st April 1929.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		BURMA.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		TOTAL.	
	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. *Agency Department*—																										
1·01. Europeans	..	..	..	..	..	..	..	..	..	..	3	2	4	2	3	2	..	..	1	1	..	..	..	..	11	7
1·02. Statutory Indians—																										
(a) Hindus	2	2	4	5	1	1	4	5	5	5	8	12	15	17	2	2	3	2	9	8	1	1	3	3	57	63
(b) Muslims	..	..	..	..	..	..	3	3	..	1	..	..	1	2	..	..	..	..	..	..	..	..	..	..	4	6
(c) Anglo-Indians	1	1	2	2	1	1	3	4	4	3	..	..	..	..	1	3	1	1	3	2	..	..	2	2	18	19
(d) Other classes	..	..	..	..	..	..	7	7	2	3	..	..	1	1	4	1	..	..	..	1	..	..	..	..	14	13
(e) Total	3	3	6	7	2	2	17	19	11	12	8	12	17	20	7	6	4	3	12	11	1	1	5	5	93	101
1·03. GRAND TOTAL	3	3	6	7	2	2	17	19	11	12	11	14	21	22	10	8	4	3	13	12	1	1	5	5	104	108
2. *Engineering Department*—																										
2·01. Europeans	1	1	12	8	2	2	11*	13	1	1	8	7	62	62	36	26	11	10	43	42	3	2	4	4	194*	178
2·02. Statutory Indians—																										
(a) Hindus	9	9	65	67	6	6	75*	72	55	48	40	46	147	127	87	89	14	19	160	138	..	..	37	38	695*	659
(b) Muslims	3	2	4	7	3	4	10	14	3	1	4	4	10	8	23	23	..	..	87	77	1	2	3	1	151	143
(c) Anglo-Indians	4	4	48	51	17	17	11	10	35	41	30	26	118	113	50	67	23	27	43*	43	1	1	17	17	397*	417
(d) Other classes	2	3	2	4	..	..	31	31	15	8	4	2	..	4	27	23	1	..	35	38	..	..	3	5	120	118
(e) Total	18	18	119	129	26	27	127*	127	108	98	78	78	275	252	187	202	38	46	325*	296	2	3	60	61	1,363*	1,337
2·03. GRAND TOTAL	19	19	131	137	28	29	138*	140	109	99	86	85	337	314	223	228	49	56	368*	338	5	5	64	65	1,557*	1,515
3. *Transportation*—																										
3·01. Europeans	1	1	20	26	9	10	39	37	7	7	30	28	126	122	203	187	..	..	122*	129	..	..	8	8	565*	555
3·02. Statutory Indians—																										
(a) Hindus	6	6	33	42	3	3	102	108	17	14	33	33	55	61	25	64	3	4	53*	62	..	..	16	13	346*	410
(b) Muslims	..	..	6	6	1	1	8	8	2	3	2	1	11	10	8	12	..	..	16	14	..	..	1	1	55	56
(c) Anglo-Indians	14	14	70	58	4	4	44	50	81	83	61	56	189	194	527	567	28	28	98	93	7	7	23	23	1,146*	1,177
(d) Other classes	1	1	3	3	..	..	111	111	12	19	3	4	5	..	55	104	..	..	32	33	..	..	1	..	223	275
(e) Total	21	21	112	109	8	8	265	277	112	119	99	94	260	265	615	747	31	32	199*	202	7	7	41	37	1,770*	1,918
3·03. GRAND TOTAL	22	22	132	135	17	18	304	314	119	126	129	122	386	387	818	934	31	32	321*	331	7	7	49	45	2,335*	2,473

*Revised figures.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		BURMA.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		TOTAL.	
	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.
4. *Commercial*—																										
4·01. Europeans	..	..	Included under Transportation.		2	2	Included under Transportation.						6	3	8	9	Included under Transportation.		8*	12	Included under Transportation.		1	1	25*	27
4·02. Statutory Indians—																										
(a) Hindus	1	3	..	..	..	..	..	..	..	..	..	..	26	27	30	35	..	..	17*	17	..	..	5	7	79*	89
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	5	5	4	5	..	..	5	4	..	..	..	..	14	14
(c) Anglo-Indians	..	..	..	..	..	..	..	..	..	..	..	..	9	10	11	9	..	..	9	2	..	..	..	..	29*	21
(d) Other classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	9	..	..	1	4	..	..	..	..	11	13
(e) Total	1	3	..	..	..	..	..	..	..	..	..	..	40	42	55	58	..	..	32*	27	..	..	5	7	133*	137
4·03. GRAND TOTAL	1	3	..	..	2	2	..	..	..	..	..	..	46	45	63	67	..	..	40*	39	..	..	6	8	158*	164
5. *Mechanical Engineering*—																										
5·01. Europeans	17	15	208	192	13	13	71*	69	16	15	65	65	320	325	54	51	69	78	192*	192	3	4	33	30	1,061*	1,049
5·02. Statutory Indians—																										
(a) Hindus	3	3	16	17	..	..	39*	45	6	8	21	23	90	103	20	24	6	6	58*	58	1	1	5	14	265*	302
(b) Muslims	1	..	2	1	1	1	6	6	..	..	1	3	13	16	2	1	1	1	47*	58	..	..	..	..	74*	87
(c) Anglo-Indians	17	16	177	174	19	19	287*	293	124	128	86	84	601	601	119	118	90	98	182*	202	3	3	134	126	1,839*	1,862
(d) Other classes	4	3	7	13	..	..	51*	55	18	19	1	4	8	5	30	32	8	7	57	45	1	1	2	3	187*	187
(e) Total	25	22	202	205	20	20	383*	399	148	155	109	114	712	725	171	175	105	112	344*	363	5	5	141	143	2,365*	2,438
5·03. GRAND TOTAL	42	37	410	397	33	33	454*	468	164	170	174	179	1,032	1,050	225	226	174	190	536*	555	8	9	174	173	3,426*	3,487
6. *Stores Department*—																										
6·01. Europeans	..	..	..	..	..	..	3	3	..	..	..	1	7	8	4	3	..	..	6	6	..	..	..	..	20	21
6·02. Statutory Indians—																										
(a) Hindus	1	1	8	8	..	..	7	7	5	5	7	7	13	16	2	2	1	1	22	23	..	..	3	3	69	73
(b) Muslims	..	..	..	..	..	..	..	1	..	..	..	..	2	2	..	..	..	..	6	6	..	..	..	..	8	9
(c) Anglo-Indians	1	1	11	13	1	1	2	1	..	..	7	5	26	21	1	2	5	3	7	6	..	..	3	3	64	56
(d) Other classes	..	..	1	1	..	..	3	5	..	..	..	..	..	..	3	3	..	..	5	6	..	..	..	..	12	15
(e) Total	2	2	20	22	1	1	12	14	5	5	14	12	41	39	6	7	6	4	40	41	..	..	6	6	153	153
6·03. GRAND TOTAL	2	2	20	22	1	1	15	17	5	5	14	13	48	47	10	10	6	4	46	47	..	..	6	6	173	174
7. *Other Departments*—																										
7·01. Europeans	4	3	33	30	2	..	19	24	..	..	..	..	90	90	4	6	2	2	16	6	..	..	2	2	172	163
7·02. Statutory Indians—																										
(a) Hindus	7	6	49*	55	6	6	59	62	25*	33	49	49	118	146	24	23	13	19	81	85	2	2	19	18	452*	504
(b) Muslims	..	..	..	1	..	..	2	2	6	5	2	9	10	10	..	1	..	..	21*	22	..	..	..	5	41*	55
(c) Anglo-Indians	4	4	70	81	18	20	35	32	17*	16	15	13	77	75	23	22	19	20	8	16	1	1	6	6	293*	306
(d) Other classes	..	..	2	4	1	1	25	28	11	10	..	..	2	2	20	24	7	5	17	19	..	..	3	1	88	94
(e) Total	11	10	121*	141	25	27	121	124	59*	64	66	71	207	233	67	70	39	44	127*	142	3	3	28	30	874*	959
7·03. GRAND TOTAL	15	13	154*	171	27	27	140	148	59*	64	66	71	297	323	71	76	41	46	143*	148	3	3	30	32	1,046*	1,122

* Revised figures.

APPENDIX F—concld.

Statement of Subordinates, drawing Rs. 250 per mensem and over or on scales of pay rising to Rs. 250 per mensem and over, employed on Class I Railways, Railway Board and other Railway Offices (excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways) on 1st April 1930 as compared with 1st April 1929—concld.

Item.	A. B.		B. N.		B. & N. W.		B., B. & C. I.		BURMA.		E. B.		E. I.		G. I. P.		M. & S. M.		N. W.		R. & K.		S. I.		TOTAL.	
	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
8. *Railway Board and other Railway offices*—																										
8·01. Europeans	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	5
8·02. Statutory Indians— (a) Hindus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	144*	160
(b) Muslims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21*	23
(c) Anglo-Indians	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28*	31
(d) Other classes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19*	20
(e) Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	212*	234
8·03. GRAND TOTAL	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	218*	239
9. *Total*—																										
9·01. Europeans	23	20	273	256	28	27	143*	146	24	23	106	103	615	612	312	284	82	90	388*	388	6	6	48	45	2,054*	2,005
9·02. Statutory Indians— (a) Hindus	29	30	175*	194	16	16	286*	299	113*	113	158	170	464	497	190	239	40	51	400*	391	4	4	88	96	2,107*	2,260
(b) Muslims	4	2	12	15	5	6	29	34	11	10	9	17	52	53	37	42	1	1	182	181	1	2	4	7	368*	393
(c) Anglo-Indians	41	40	378	379	60	62	382*	390	261*	271	199	184	1,020	1,014	732	788	166	177	350*	364	12	12	185	177	3,814*	3,889
(d) Other classes	7	7	15	25	1	1	228*	237	58	59	8	10	16	12	149	196	16	12	147	146	1	1	9	9	674*	735
(e) Total	81	79	580*	613	82	85	925*	960	443*	453	374	381	1,552	1,576	1,108	1,265	223	241	1,079*	1,082	18	19	286	289	6,963*	7,277
9·03. GRAND TOTAL	104	99	853*	869	110	112	1,068*	1,106	467*	476	480	484	2,167	2,188	1,420	1,549	305	331	1,467*	1,470	24	25	334	334	9,017*	9,282
10. *Increase + Decrease —*																										
10·01. Europeans	..	—3	..	—17	..	—1	..	+3	..	—1	..	—3	..	—3	..	—28	..	+8	..	..	..	..	..	—3	..	—49
10·02. Statutory Indians— (a) Hindus	..	+1	..	+19	..	..	..	+13	..	..	..	+12	..	+33	..	+49	..	+11	..	—9	..	..	..	+8	..	+153
(b) Muslims	..	—2	..	+3	..	+1	..	+5	..	—1	..	+8	..	+1	..	+5	..	..	..	—1	..	+1	..	+3	..	+25
(c) Anglo-Indians	..	—1	..	+1	..	+2	..	+8	..	+10	..	—15	..	—6	..	+56	..	+11	..	+14	..	..	..	—8	..	+75
(d) Other classes	..	..	..	+10	..	..	..	+9	..	+1	..	+2	..	—4	..	+47	..	—4	..	—1	..	..	..	..	..	+61
(e) Total	..	—2	..	+33	..	+3	..	+35	..	+10	..	+7	..	+24	..	+157	..	+18	..	+3	..	+1	..	+3	..	+314
10·03. GRAND TOTAL	..	—5	..	+16	..	+2	..	+38	..	+9	..	+4	..	+21	..	+129	..	+26	..	+3	..	+1	..	..	..	+265
11. *Percentage of total*—																										
11·01. Europeans	22·1	20·2	32·0	29·5	25·5	24·1	13·3	13·2	5·1	4·9	22·1	21·3	28·4	27·9	21·9	18·3	26·9	27·2	26·4	26·4	25·0	24·0	14·4	13·5	22·8	21·6
11·02. Statutory Indians— (a) Hindus	27·9	30·3	20·5	22·3	14·6	14·3	26·8	27·0	24·2	23·7	32·9	35·1	21·4	22·7	13·4	15·4	13·1	15·4	27·3	26·6	16·7	16·0	26·3	28·7	23·3	24·3
(b) Muslims	3·9	2·0	1·4	1·7	4·5	5·3	2·7	3·1	2·4	2·1	1·8	3·5	2·4	2·4	2·6	2·7	0·3	0·3	12·4	12·3	4·2	8·0	1·2	2·1	4·1	4·2
(c) Anglo-Indians	39·4	40·5	44·3	43·6	54·5	55·4	35·8	35·3	55·9	56·9	41·5	38·0	47·1	46·5	51·6	50·9	54·4	53·5	23·9	24·8	50·0	48·0	55·4	53·0	42·3	41·9
(d) Other classes	6·7	7·0	1·8	2·9	0·9	0·9	21·4	21·4	12·4	12·4	1·7	2·1	0·7	0·5	10·5	12·7	5·3	3·6	10·0	9·9	4·1	4·0	2·7	2·7	7·5	8·0

* Revised figures.

APPENDIX G.

Statement showing the number of appointments created and vacancies which occurred among officers of Gazetted rank on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways, and how they were filled during 1929-30.

Departments.	Number of new appointments created during the year.	Number of appointments abolished during the year.	Number of vacancies which occurred during the year.	Number of vacancies which occurred in previous years not filled in these years remaining to be filled.	Number of net vacancies to be filled.	Number of vacancies not filled up during the year.	Number of vacancies actually filled.	FILLED BY: Europeans	FILLED BY: Statutory Indians: Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	TOTAL.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
State Worked Railways.													
1. Agency	..	..	1	..	1	1	..	..	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Engineering	..	..	17	15	32	18	14	4	6	1	1	2	10
4. Transportation and Commercial.	..	..	9	15	24	14	10	2	6	2	..	..	8
5. Mechanical	1	..	11	18	30	13	17	8	5	1	3	..	9
6. Stores	1	..	2	1	4	4	..	..	..	..	..	..	..
7. Other Departments	..	..	6	3	9	2	7	2	3	1	..	1	5
8. TOTAL . 1929-30	2	..	46	52	100	52	48	16	20	5	4	3	32
8. TOTAL . 1928-29	50	3	50	25	122	*52	*70	*26	*28	*4	*9	*3	*44
9. Percentage of Europeans to number of vacancies filled. 1928-29	37												
9. Percentage of Europeans to number of vacancies filled. 1929-30	33·3												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29	63												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	66·7												
Other Railways.													
Assam Bengal Railway.													
1. Agency	..	..	1	..	1	..	1	..	..	..	1	..	1
2. Accounts	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Engineering	1	..	1	..	2	..	2	..	..	..	2	..	2
4. Transportation and Commercial.	..	..	1	1	2	2	..	..	..	..	..	..	..
5. Mechanical	..	..	1	..	1	..	1	1	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..	..	..	..
8. TOTAL . 1929-30	1	..	4	1	6	2	4	1	..	..	3	..	3
8. TOTAL . 1928-29	2	2	4	2	6	1	5	2	2	..	1	..	3
9. Percentage of Europeans to number of vacancies filled. 1928-29	40·0												
9. Percentage of Europeans to number of vacancies filled. 1929-30	25·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29	60·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	75·0												

* Revised figures.

APPENDIX G—*contd.*

Statement showing the number of appointments created and vacancies which occurred among officers of Gazetted rank on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways, and how they were filled during 1929-30—contd.

Departments.	Number of new appointments created during the year.	Number of appointments abolished during the year.	Number of vacancies which occurred during the year.	Number of vacancies which occurred in previous years not filled in these years remaining to be filled.	Number of net vacancies to be filled.	Number of vacancies not filled up during the year.	Number of vacancies actually filled.	FILLED BY: Europeans.	FILLED BY: Statutory Indians: Hindus.	Muslims.	Anglo-Indians and domiciled Europeans.	Other classes.	TOTAL
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bengal and North Western Railway.													
1. Agency	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Accounts	1	..	2	..	3	..	3	1	2	..	..	..	2
3. Engineering	2	..	2	..	4	..	4	2	1	1	..	..	2
4. Transportation and Commercial.	..	..	..	..	..	..	..	..	..	..	..	..	..
5. Mechanical	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..	..	..	..
8. TOTAL 1929-30	3	..	4	..	7	..	7	3	3	1	..	..	4
8. TOTAL 1928-29	1	..	3	..	4	..	4	3	..	..	1	..	1
9. Percentage of Europeans to number of vacancies filled. 1928-29	75·0												
1929-30	42·9												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29	25·0												
1929-30	57·1												
Bengal Nagpur Railway.													
1. Agency	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	1	1	2	..	2	..	1	..	1	..	2
3. Engineering	2	..	2	..	4	1	3	2	1	..	..	..	1
4. Transportation and Commercial.	1	..	1	2	4	..	4	1	1	..	2	..	3
5. Mechanical	1	..	2	2	5	1	4	4	..	..	..	..	..
6. Stores	..	..	1	..	1	..	1	1	..	..	..	..	..
7. Other Departments	..	..	3	2	5	2	3	3	..	..	..	..	..
8. TOTAL 1929-30	4	..	10	7	21	4	17	11	3	..	3	..	6
8. TOTAL 1928-29	8	1	14	5	26	7	19	10	4	1	4	..	9
9. Percentage of Europeans to number of vacancies filled. 1928-29	52·6												
1929-30	64·7												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29	47·4												
1929-30	35·3												
Bombay, Baroda and Central India Railway.													
1. Agency	..	..	..	1	1	1	..	..	..	..	..	..	..
2. Accounts	..	..	..	1	1	1	..	..	..	..	..	..	..
3. Engineering	1	2	7	5	11	4	7	3	3	..	..	1	4
4. Transportation and Commercial.	1	2	1	3	3	1	2	..	1	..	..	1	2
5. Mechanical	..	..	3	1	4	2	2	2	..	..	..	..	..
6. Stores	..	..	..	1	1	..	1	1	..	..	..	..	..
7. Other Departments	..	..	2	..	2	..	2	1	1	..	..	..	1
8. TOTAL 1929-30	2	4	13	12	23	9	14	7	5	..	..	2	7
8. TOTAL 1928-29	7	8	*12	5	*16	*11	*5	*3	*3	..	*..	*—1	*2
9. Percentage of Europeans to number of vacancies filled. 1928-29	60·0												
1929-30	50·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29	40·0												
1929-30	50·0												

* Revised figures.

APPENDIX G—*concld.*

Statement showing the number of appointments created and vacancies which occurred among officers of Gazetted rank on State Railways and of corresponding rank on Companies' Railways (Class I) excluding H. E. H. the Nizam's Guaranteed State and Jodhpur Railways, and how they were filled during 1929-30—concld.

Departments.	Number of new appointments created during the year.	Number of appointments abolished during the year.	Number of vacancies which occurred during the year.	Number of vacancies which occurred in previous years not filled in these years remaining to be filled.	Number of net vacancies to be filled.	Number of vacancies not filled up during the year.	Number of vacancies actually filled.	FILLED BY: Europeans.	Statutory Indians: Hindus.	Statutory Indians: Muslims.	Statutory Indians: Anglo-Indians and domiciled Europeans.	Statutory Indians: Other classes.	Statutory Indians: TOTAL.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Madras and Southern Mahratta Railway.													
1. Agency	1	..	..	2	3	1	2	2	..	..	..	..	..
2. Accounts	..	1	..	..	—1	..	—1	..	—1	..	..	..	—1
3. Engineering	3	5	2	5	5	9	—4	—3	1	..	—1	—1	—1
4. Transportation and Commercial.	1	..	1	6	8	2	6	1	4	..	1	..	5
5. Mechanical	2	..	..	..	2	..	2	..	1	..	..	1	2
6. Stores	..	..	1	..	1	..	1	..	1	..	..	..	1
7. Other Departments	..	..	2	2	4	1	3	1	1	..	..	1	2
8. TOTAL 1929-30	7	6	6	15	22	13	9	1	7	..	..	1	8
8. TOTAL 1928-29	1	11	21	13	*24	17	7	5	1	..	1	..	2
9. Percentage of Europeans to number of vacancies filled. 1928-29	71·4												
9. Percentage of Europeans to number of vacancies filled. 1929-30	11·1												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29	28·6												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	88·9												
Rohilkund and Kumaon Railway.													
1. Agency	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Accounts	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Engineering	..	..	..	..	..	..	..	..	..	..	..	..	..
4. Transportation and Commercial.	..	..	..	..	..	..	..	..	..	..	..	..	..
5. Mechanical	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Stores	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Other Departments	..	..	..	..	..	..	..	..	..	..	..	..	..
8. TOTAL 1929-30	..	..	..	..	..	..	..	..	..	..	..	..	..
8. TOTAL 1928-29	..	..	*2	..	*2	*2	..	..	..	..	..	..	..
9. Percentage of Europeans to number of vacancies filled. 1928-29													
9. Percentage of Europeans to number of vacancies filled. 1929-30													
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29													
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30													
South Indian Railway.													
1. Agency	..	..	1	..	1	..	1	..	1	..	..	..	1
2. Accounts	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Engineering	..	9	5	9	5	3	2	..	1	..	..	1	2
4. Transportation and Commercial.	..	1	3	1	3	..	3	1	1	1	..	..	2
5. Mechanical	3	2	..	2	3	1	2	..	2	..	..	..	2
6. Stores	..	..	..	1	1	1	..	..	..	..	..	..	..
7. Other Departments	1	..	1	..	2	..	2	..	1	..	1	..	2
8. TOTAL 1929-30	4	12	10	13	15	5	10	1	6	1	1	1	9
8. TOTAL 1928-29	16	11	10	14	29	13	16	4	8	1	2	1	12
9. Percentage of Europeans to number of vacancies filled. 1928-29	25·0												
9. Percentage of Europeans to number of vacancies filled. 1929-30	10·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1928-29	75·0												
10. Percentage of Statutory Indians to number of vacancies filled. 1929-30	90·0												

* Revised figures.

APPENDIX H.

Officers of the Railway Department (Railway Board) on 31st March, 1930.

The Hon'ble Sir GEORGE RAINY, K.C.S.I., K.C.I.E., I.C.S.,
Member of Council of Governor General.

Railway Board.

Mr. T. G. Russell	Chief Commissioner of Railways.
Mr. A. A. L. Parsons, C.I.E., I.C.S.	Financial Commissioner of Railways.
Mr. A. M. Hayman, O.B.E.	Member.
Sir F. Austen Hadow, Kt., C.V.O.	Member (on leave).
Mr. M. W. Brayshay	Member (Offg.).
Mr. H. A. M. Hannay	Member (Offg.).

Mr. A. Lines	Director, Civil Engineering (on deputation).
Mr. S. P. Flowerdew	Director, Civil Engineering (Offg.).
Mr. A. J. Chase, O.B.E.	Director, Mechanical Engineering (on leave).
Mr. F. J. Page, O.B.E.	Director, Mechanical Engineering (Offg.).
Mr. C. P. Colvin, O.B.E.	Director, Traffic (Offg.).
Mr. P. R. Rau, M.A.	Director, Finance (on leave).
Mr. T. S. Sankara Aiyar	Director, Finance (Offg.).
Mr. J. C. Highet, B.A., B.E.	Director, Establishment (on leave).
Mr. N. D. Calder	Director, Establishment (Offg.).
Mr. P. H. Maflin, O.B.E., M.C.	Secretary (on leave).
Mr. J. F. Blackwood	Secretary (Offg.).
Mr. A. M. Ali	Deputy Secretary (Offg.).
Mr. G. C. Laughton	Deputy Director, Civil Engineering (Offg.).
Mr. R. C. Case	Deputy Director, Mechanical Engineering (Offg.) (on leave).
Mr. T. G. Creighton	Deputy Director, Mechanical Engineering (Offg.).
Mr. F. D'Souza	Deputy Director, Traffic and Statistics (Offg.).
Mr. H. J. M. de Lange	Deputy Director, Finance (Offg.).
Mr. K. M. Hassan	Deputy Director, Establishments (Offg.).
Khan Bahadur Barkat Ali	Assistant Director, Finance (Offg.).
Mr. Gopal Nath Mehra	Assistant Director, Statistics.
Mr. E. C. Rundlett	Chief Superintendent.

Honorary Assistant Personnel Officer.

Rai Bahadur Ishar Das Puri	Honorary Assistant Personnel Officer.

Attached Officers.

Mr. H. C. B. Jollye	Timber Advisory Officer.
Mr. P. B. Chandwani, M.A.	Officer on Special Duty.

Controller of Railway Accounts.

Mr. M. K. Mitra, M.A.	Controller of Railway Accounts.
Mr. T. R. V. Sarma, B.A.	Deputy Controller of Railway Accounts.
Rai Bahadur B. D. Puri	Officer on Special Duty.
Mr. Yaqub Shah, M.A.	Assistant Controller of Railway Accounts.
Mr. C. N. Bhan	Assistant Accounts Officer.

MGIPC—L—X-60—17-12-30—1,350.